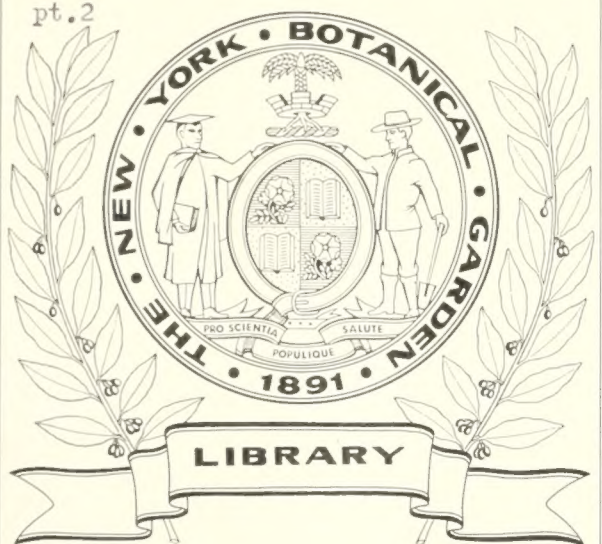


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Icones
Florae Germanicae et Helveticae

Simul Terrarum Adiacentium

Ergo

Mediae Europae.

Opus Auctoribus

L. Reichenbach et H. G. Reichenbach Fil.

Conditum, Nunc Continuum

Auctore

D^{re} G. Equite Beck de Mannagetta.

Volumen XIX 2

Auctoribus

D^{re} J. Murr, C. H. Zahn, J. Poell.



Lipsiae et Gerae

Sumptibus Friederici de Zezschwitz

1904 — 1912.

Praefatio.

Causis a cl. professore equ. de Beck expositis, quae optandam reddiderint iconum florum Europae mediae additamenta, nobis restat explicare, quae momenta in eligendis iconibus nostris secuti simus.

Prope innumerabiles, id quod modo dictum est, sunt novae Hieraciorum formae et specie et valore systematico praestantes, quae a botanicis multis et illustribus his decem lustris per Alpium tractum investigatae sunt. Ob hanc ipsam formarum novarum copiam speramus fore, ut benigna nobis detur ab Hieraciologis Hieraciophilisque venia, quod etiam in hoc nostro opere Plautinum illud „tunica pallio propior“ admodum valeat i. e. quod formas Alpium orientalium mediarumque, quas ipsi locis naturalibus inspeximus, praeferendas censuerimus, idque, ut putamus, eo rectius, quod hae Alpium partes a pluribus botanicis peragrantur quam Gallicae Alpes quamvis ditissimae Hieraciorum. Si pariter aequaliterque respexissemus omnes Europae mediae et australioris partes, vix quinque volumina novis Hieraciis delineandis satis fuerunt.

Imprimis operam dedimus, ut iterum atque saepius illae formarum series, quibus species principales inter se coniunguntur, quam plenissime proferantur, ita ut naturae quasi rationes phylogeneticae, quae in Hieraciorum genere valuerint valeantque, manifeste appareant. Pro certo habemus — multique et peritissimi botanici iam nobiscum consentiunt — nodum Gordium in hoc genere propositum nulla alia ratione dissolvi posse nisi methodo Naegeliano etsi ex parte emendando restringendoque.

Iconum textusque ordo, quem in hoc opere observamus, cum eo ordine congruit, quo Hieracia in Kochii Synopseos editione III. a Hallier et Wohlfarth edita disposita sunt, scilicet ita, ut speciem quamque principalem s. primi ordinis eae formae, quae intermediae sunt aut compositae ex hac specie et praecedentibus, subsequantur.

Selectas formas novas e subgenere *Pilosella* certis de causis praeter ordinem solitum *Euhieraciis* postponere statuimus.

Reliquum est, ut gratis animis memoremus icones ab amico nostro **Josepho Poell** Oenipontano summa cura summaque arte delineatas esse et pictas.

Tridenti	}	Kal. Oct. a. MCMIV.
Caroloruhae		

J. Murr. H. Zahn.

Hieracium (Habichtskraut).

(Tournef., Jnst. 469. tab. 267 pp.; Linné, Gen. I Nr. 620 pp.) Tausch, Bemerk. Hierac. in Flora 1828, Ergänzungsblatt I; Froelich in DC., Prodr. VII (1838); Fries, Symbolae 1848), Epicrisis (1862); Grisebach, Commentatio de distrib. Hieracii gen. (1852); Sendtner, Die südbayrischen Hieracien, in Flora (1854); Naegeli-Peter, Die Hieracien Mitteleuropas I (1885), II (1886—1889); Arvet-Touvet, Les Hieracium des Alpes françaises (1888); K. H. Zahn, in Koch Synopsis (ed. Hallier-Wohlfahrt) p. 1697—1931 (1901) et in Reichenb. Fl. Germ. XIX, II.

Subgenus I. **Euhieracium** Torr. et Gray, Gremli Exkursionsfl. d. Schweiz, Zahn l. c.; *Aurella* Tausch l. c.; *Pulmonarea* Griseb. l. c.; *Archieracium* Fries Epicr. p. 6.

A. **Phyllopoda** (Godet, Čelakovsky) Zahn l. c. p. 1762. — Innovatio per rosulas.

Sectio I. **Glaucia** Fries, Epicr. p. 66; Zahn l. c. p. 1762; *Glaucina* N. P. II p. 1. — Folia pilis simplicibus ± denticulatis obtecta, eglandulosa, ± glauca, rigida, basin versus ± angustata, glabra, rarius in margine et subtus in nervo mediano subpilosa. Involucri squamae numerosae in plures series contiguas dispositae, angustae (exterioribus intimis obtusis breviores), adpressae, ± canofloccosae, rarius subpilosae v. subglandulosae. Receptaculi alveoli dentati (non ciliati); ligulae non ciliatae. Radix apice nuda, non lanato-comosa.

I. **Hieracium bupleuroides** Gmel., Flor. Bad. III p. 317, tab. 2 (Grex Crinifolium N. P. II p. 17 et 25), subspecies **Gamperdonense** Murr et Zahn (1903). — Caulis 15—30 cm altus, suberectus, subtenuis, subtiliter striatus, furcato-ramosus; accladium $\frac{1}{3}$ — $\frac{1}{2}$ caulis exhibens. Inflorescentia 2—3 (—6) cephalae; ordines axium 2 (rarissime 3); rami primarii 1—2 (—3), oblique-erecti. Folia rosularia complura, subpetiolata, denticulata, exteriora breviora lanceolata acutiuscula, in margine et subtus parce pilosa, interiora longiora angustiora acuta, subpilosa; caulina 2—4, lineari-lanceolata glabra. Involucrum 10—13 mm longum, ovatum, demum basi subtruncatum; squamae sublatiusculae (exterioribus angustiores) subattenuatae subobtusae, obscurae vel nigricantes, vix marginatae (interiores submarginatae); pedunculi involucrum versus incrassati; bractae 5—8, subulatae. Pili involucri subnumerosi, 1 mm longi, obscuri apice diluti, in pedunculis superne sparsi, inferne et in caulibus nulli. Glandulae involucri sparsae v. subnullae, caulomata eglandulosa. Flocci in squamarum marginibus subnumerosi, pedunculi superne tomentosi, inferne pariter ac caules et folia effloccosi. Flores saturate lutei, ligulae glabrae; styli obscuri; achaenia castanea, 3,5 mm longa.

Crescit in declivibus calcareis Vorarlbergiae prope alpem St. Rochus in valle „Gamperdonatal“ iuxta montem „Scesaplana“, ubi detex. a. 1903 Dr. Murr. — Floret Aug.

Tab. 1, Fig. 1—5. *H. Gamperdonense* M. et Z. 1. Planta spont. 2. Fol. rosulae. 3. Pedunculus sub involucro. 4. Squama. 5. Achaenium.

Sectio II. Villosa Naeg.-Pet. II p. 85, Zahn l. c. p. 1766. — Folia pilis simplicibus ± dentatis oblecta, eglandulosa, glauca, pilis elongatis mollibus vestita vel subglabra, caulina basi vulgo non contracta. Capitula ampla, longe pedunculata; involucri squamae latae, laxae v. squarrosae, effloccosae, dense villosae, exteriores acutae, interiores late lineares acutissimae, apice sub lente minutissime glandulosae. Ligulae interdum subciliatae.

2. Hieracium villosum L. Spec. plant. ed. 2 p. 1130, subspecies **calvifolium** N. P. II p. 103; *H. villosum* λ. **glabrum** Froel. in DC. Prodr. VII (1838) p. 228; *H. villosum semiglabratum* Fries Symb. (1848) p. 52; *H. villosum* β) **nudum** Grenier et Godron, Fl. France II (1850) p. 357, non A. Kerner. — Caulis 20–30 (—35) cm altus, crassiusculus, substriatus, subflexuosus, vulgo monocephalus. Folia rosularia subnumerosa v. pauca, ± lanceolata, basi attenuata, saepe subpetiolata, inferiora subobtusa, intima ± acuta, subundulata, hinc inde irregulariter subdentata, glauca, submollia; caulina 4–6, lanceolata, saepe subaequilata, superiora basin versus angustata v. rotundata sessilia, omnia breviter acuta, sensim in bracteas decrescentia, saepe flavescentia. Inflorescentia furcata, indeterminata, 1 (—3) cephalia, ramis caulem aequantibus; acodium 3–11 cm longum; ordines axium 1 (—2), rami primarii 0 (—2), valde remoti, crassiusculi. Involucrum 13–15 (—17) mm longum, late globosum; squamae exteriores subfoliaceae, lanceolatae, virides, interiores ± lineares obscuriores, omnes acutissimae. Bracteae 6–8, subfoliaceae, sensim in squamas decrescentes. Pili basi obscuri, in involucrio copiosissimi albi molles, usque ad 3 mm longi, in pedunculis caulibusque superne copiosi, ad 6 mm longi, inferne usque ad basin sensim deminuti, in foliis supra nulli v. (etiam subtus) marginem versus rari, in margine ipso subcopiosi, 3–4 mm longi, in parte superiore foliorum caulinarum semper frequentiores. Glandulae nullae, versus apicem squamarum interiorum sparsae, minutissimae. Flocci: caulomata superne canotomentosa, inferne usque ad basin multiflocca, involucrum effloccosum. Flores dilute flavi, extus vix pilosi, ligulae vulgo epilosae; styli concolores v. subobscuri; achaenia nigro-brunea, 3,5 mm longa.

Crescit non infrequens in alpibus calcareis Delphinatus, Sabaudiae, Helvetiae, Algoviae, Tiroliae, Salisburgiae, Carinthiae, inter 1100–2700 m. — Floret Jul. Aug.

Exsiccatae: Hieracia Naegelianae exsiccata Nr. 348.

Tab. 2, Fig. A. 1–6. *H. villosum* L. ssp. **calvifolium** N. P. 1. Planta spont. 2. Pedunculus involucri. 3, 4. Squamae. 5. Flos. 6. Achaenium.

Species intermedia:

3. Hieracium glabratum Hoppe, in Willd. Spec. plant. III, 3 (1800) p. 49 pp.; *H. villosum* β. **glabratum** Neilr. Nachtr. Flor. v. Wien (1851) p. 178; *H. scorzonrifolium* Reichenb., Icones XIX (1860) p. 114, tab. 202, fig. II, et *H. glabratum* l. c. p. 114, tab. 203, fig. II. Subspecies **glabratiforme** Murr, in Deutsche bot. Monatschrift (1897) p. 226; *H. nudum* A. Kerner in sched. apud Naeg.-Pet. l. c. II p. 144, non Gren. et Godr. Fl. France II p. 357; *H. villosum* L. var. **glabrescens** F. Schultz, Archives (1850) p. 178; Murr in Dörfler. Herb. norm. cent. XXXII Nr. 3134. — *Forma intermedia inter H. villosum* L. et *H. glabratum* Hoppe. — Caulis 6–25 cm altus, tenuis, subflexuosus, subtiliter striatus, basin versus saepe rubro-coloratus, vulgo monocephalus. Folia rosularia pauca v. complura (saepe longe petiolata, exteriora ± spatulata rotundata, pleraque lanceolata et anguste-lanceolata v. sublinearia, ± acuminata, integra v. remote et obscure-denticulata v. dentata; caulina 3–4, ± sensim

decrecentia, inferiora \pm petiolata v. sessilia, basin versus attenuata, superiora saepe basi rotundata, omnia glauca, rigidiuscula. Inflorescentia rarissime 2 cephala; acladium 4—6 cm longum. Involucrum 11—14 cm longum, \pm globosum; squamae sublatiusculae v. angustae, acutissimae, obscurae, exteriores sublaevae. Bractae paucae, minutae. Pili involucri copiosissimi, diluti, 2—3 mm longi, in caulibus superne numerosi, 1,5—2,5 mm longi, inferne usque ad $\frac{1}{3}$ totius caulis sensim deminuti et breviores, basin versus nulli, in marginibus foliorum superiorum satis copiosi, in foliis inferioribus nulli v. in marginibus basin versus solitarii. Glandulae nullae, apicem squamarum versus parum evolutae, minutissimae. Flocci: involucrum subeffloccosum, caulis superne cano- v. albo-tomentosus, inferne usque ad $\frac{1}{3}$ totius caulis (saepe ad basin) sensim deminute-floccosus, folia effloccosa. Flores dilute-flavi, ligulae epilosae; styli diluti; achaenia atra, 3 mm longa.

Crescit in alpibus calcareis et dolomiticis Tiroliae, Algoviae, Carinthiae, Salisburgiae, Norici, Austriae sup., Transsilvaniae, Bosniae, inter 1300—2600 m. — Floret m. Jul. Aug.

Subspecies bene distincta, ab *H. villosa* ssp. *calvifolium* N. P., cum quo confunditur et jungitur, plane diversa.

Exsiccatae: *Hieracia Naegelianae* exsicc. Nr. 356, 357 (var.); Billot, Fl. Gall. et Germ. exsicc. Nr. 1095 bis pp.; Dörfler, Herb. norm. cent. XXXII Nr. 3134 (sub nomine *H. glabrescens* F. Schultz); Flora exsicc. Austro-Hungarica cent. XXXIV (1901) Nr. 3327 (e monte Blaser p. Trins, leg. A. Kerner!).

Tab. 2, Fig. B. 1—4. *H. glabratum* Hoppe ssp. *glabratiforme* Murr. 1. Plante spontanea (e monte Salzberg p. Innsbruck, leg. Dr. Murr). 2. Squama. 3. Flos. 4. Achaenium.

4. *Hieracium villosiceps* Naeg.-Pet., Hierac. Mitteleurop. II p. 105, subspecies **comatulum** N. P. l. c. p. 113. — Habitus *H. bupleuroidis*, indumentum *H. villosi*. — Caulis ad 30 cm altus, gracilis v. tenuis, subtiliter striatus, saepe usque ad medium ramosus. Folia rosularia numerosa, basin versus attenuata subpetiolata, lineari-lanceolata, acuta, subdenticulata v. subintegra; caulina 4—6, cito decrecentia, attenuata sessilia, omnia subglaucescentia-luteo-viridia, rigidiuscula. Inflorescentia alte furcata, indeterminata, \pm suprafastigiata, (1—) 2—4 cephala; acladium 3—4 cm longum; ordines axium 2, rami primarii (0—) 1—3, remoti, graciles, elongati, rigidiusculi. Involucrum 11—13 mm longum, globosum; squamae lineares, acuminatae, acutissimae, obscurae, indumento densissimo obtectae. Bractae 3—4, lineares v. subulatae. Tota planta pilis copiosissimis sericeis albis vestita, pili in involucrio et foliis ad 3 mm, in pedunculis et caulibus ad 7 mm longi. Glandulae nullae, apicem squamarum versus subnumerosae, minutae. Flocci in involucrio foliisque nulli, caulomata superne cano-tomentosa, deinde deminute-floccosa, infra medium effloccosa. Flores subdilute flavi, extus cum dentibus ligularum subepilosi; styli subobscuri; achaenia brunea, 2,7 mm longa, saepe infertilia.

Crescit in alpibus calc. et dolomiticis Tiroliae: Haller Salzberg, Kaserenwiesen p. Neuprags, Monte Piano p. Schluderbach; Salisburgiae: Untersberg; Bavariae: Mittewald ad fl. Isar. — Floret Jul. Aug.

Exstat var. **lonchiphellum** N. P. l. c. p. 114: folia lanceolata v. anguste-lanceolata, distincte petiolata, in Helvetia: Eginental, Ormonts, Engadin, Hinterrhein; Bavaria: Schliersee; Tirolia: Neuprags; Jura: Dôle (v. N. P. l. c. p. 114, 115).

Exsiccatae: *Hieracia Naegelianae* Nr. 350 (var. *lonchiphellum*).

Tab. 3, Fig. A. 1—5. *H. villosiceps* N. P. ssp. *comatulum* N. P. var. *genuinum* N. P. 1. Planta spont. ex alpib. Tirol.: Haller Salzberg (leg. Dr. Murr). 2, 3. Squamae. 4. Flos. 5. Achaenium.

5. Hieracium villosiceps N. P. l. c. p. 105, subspecies **sericotrichum** N. P. l. c. p. 116. Caulis ad 24 cm altus, subgracilis, subtiliter striatus, vulgo monocephalus. Folia rosularia 2—6, vulgo distincte petiolata, lanceolata, acuta (exteriora saepe subspathulata subobtusae), integerrima v. remote denticulata, plana; caulina 3—6, lanceolata, basin versus angustataa cuto cito decrescentia; omnia subglaucescentia, rigidiuscula. Inflorescentia interdum furcata 2-cephala; aeladium ad 9 cm longum. Involucrum 12—13 mm longum, globosum; squamae exteriores \pm lanceolatae, laxae, interiores sublineares, omnes acutissimae obscurae. Bractee 2—3, subfoliaceae. Tota planta pilis sericeis albis numerosissimis, 3—4 mm longis, in caulibus ad 7 mm l. obiecta. Glandulae nullae versus apicem squamarum interiorum satis numerosae, minutissimae. Flocci in involucri et foliis nulli, caulomata superne canotomentosa, inferne usque ad medium caulem sensim deminute-floccosa. Flores dilute flavi, extus cum ligulis modice pilosi; styli obscuri; achaenia matura atra, 3,8 mm longa.

Variat: $\alphagenuinum N. P. l. c. p. 116; *H. perpilosum* Arv.-Touv. ap. Briquet, Herb. Tyr. mérid. in Bull. Laborat. Bot. gén. Genève I, p. 288 (Bull. Herb. Boiss. 1897 p. 477).$

Crescit in alpibus Tiroliae: Mühlwaldtal, Vennertal, Schlernklamm, Enneberg, Kerschbaumer Alpe; Carinthiae: Auernig p. Pontafel, Osternig p. Tarvis; Vorarlbergiae: Scesaplana; Bavariae: Watzmann, Königsee (cf. N. P.); Helvetiae: Zwischbergen, Grammont etc. — Floret m. Jul. Aug.

$\betadecrescens N. P. p. 117. Caulis ad 15 cm altus, monocephalus, \pm tenuis; folia rosularia numerosa, exteriora \pm spathulato-lanceolata, subobtusae, interiora lanceolata acuta; fol. caulina 2—4, cito decrescentia.$

Crescit in alp. calc. et dolomit. Tiroliae: Neuprags, Schluderbach, Treeroi, Monte Spinale, Seiser Alpe, Kals, St. Anton; Carinthiae: Pasterze, Tarvis, Raibl, Plöcken; Carnioliae: Savrenza p. Wurzen; Helvetiae: Engadin, Splügen. — Floret m. Jul. Aug.

H. eriophyllum Willd. ssp. *eriphyllum* forma 3) *protractum* N. P. II p. 301, e loco „Schwarzau“ in Austria inf., est forma magis evoluta *H. sericotrichi* (vidi in herbario cl. d. E. Khek Vindobon.).

Tab. 3, Fig. B. 1—5. *H. villosiceps* N. P. ssp. *sericotrichum* N. P. var. β . **decrescens** N. P. 1. Planta spont. ex Tirolia: Plaetzwiesen p. Schluderbach. 2, 3. Squamae. 4. Flos. 5. Achaenium.

Species intermediae:

6. Hieracium praetensum Arvet-Touv. et Briquet, Nouv. Notes florist. Alp. Léman. p. 87 (1899); *H. valdelitigiosum* Murr, Deutsch. bot. Monatsschrift (1902) p. 75, Österr. bot. Zeitschr. (1902) p. 319. — *Ex affinitate H. dentati* Hoppe. Caulis ad 40 cm altus, gracilis v. crassiusculus, erectus, subflexuosus v. flexuosus, substriatus. Folia rosularia nonnulla v. complura, basin versus attenuata, distincte petiolata, oblongo-spathulata, oblongo-lanceolata v. lanceolata, denticulata, raro subdentata, exteriora obtusa, interiora longiora. (saepe subplicato-, acuminata; caulina 4—6, sensim decrescentia, inferius subpetiolatum, superiora late lanceolata, basin versus saepe subpanduriformia v. breviter attenuata sessilia, hinc inde basi ovata, subdenticulata v. subintegerrima, breviter acuta mucronata, omnia subglaucescentia-

luteo-viridia, mollia. Inflorescentia plerumque monocephala: involucrium 13—15 mm longum, ovatum, demum globosum depressum; squamae subangustae, acuminatae, acutissimae, obscure virides. Bracteae 2—3, lineari-lanceolatae. Pili involucri numerosi diluti subsericei, 2—3 mm longi, in tota planta subnumerosi, 2—4 mm longi. Glandulae nullae, versus apicem squamarum tantum dispersae, minutae. Flocci involucri nulli, caulomata superne subcanotomentosa, inferne usque ad medium caulem deminute-floccosa. Flores dilute flavi, ligulae subciliatae; stylus luteus; achaenia castanea, 4,5 mm longa.

Habitus foliorum caulinorum saepe *H. elongatum* Willd. revocans et quasi intermedius inter *H. dentatum* Hoppe et *H. elongatum* Willd. (*dentatum* > *elongatum*), sed sine dubio planta nostra ad subspecies polymorphi *H. dentati* (Gr. Subvillosum) pertinet.

Crescit in alpinis calcareis Tiroliae: Haller Salzberg (leg. Dr. Murr); Helvetiae, Sertigtal p. Davos (leg. Zahn) et in alpinis Valesiae austro-occidentalis et Sabaudiae (Briquet). — Floret m. Jul. Aug.

Tab. 4, Fig. A. 1—3. 1. *H. praetensum* A.-T. et Briq. (e monte Haller Salzberg). 2. Squama interior. 3. Achaenium.

7. Hieracium Trefferianum N. P., Hierac. Mitteleurop. II p. 112: *H. villosiceps* N. P. ssp. *Trefferianum* N. P. l. c.; *H. villosoides* Murr, Deutsche bot. Monatsschr. (1897) p. 242. — Inter *H. glabratum* Hoppe et *H. villosum* L. ssp. *calvifolium* N. P. vel inter priorem et *H. dentatum* Hoppe quasi intermedium. — Caulis ad 25—30 cm altus, crassiusculus, subflexuosus, substriatus, alte furcatus. Folia rosularia 3—5, subpetiolata, oblongo-lanceolata, obtusa v. ± acuta-mucronata, subintegerrima aut irregulariter remote-subdentata; caulina 4—6, sensim decrescentia, inferiora oblonga, basin versus parum attenuata v. aequilata, superiora ovata sessilia vel cordato-ovata subamplexicaulia; omnia praesertim supra, ± saturate viridia. Inflorescentia indeterminata, (1—) 2—3 cephalae; acladium 3—5 cm longum; rami primarii 1—2, remoti, crassiusculi, caulem non superantes. Involucrium 16—18 mm longum, late-globosum; squamae lanceolatae-lineares, longe acuminatae, acutissimae, subobscurae. Bracteae 2—3, subfoliaceae. Pili ubique molles, in involucrio copiosi diluti, ad 3 mm longi, in caule subfrequentes, folia mediocriter pilosa (2—3 mm), supra saepe glabrescentes. Glandulae nullae, versus apicem squamarum rarae, minutae. Flocci involucri sparsi, in foliis nulli, caulomata superne albotomentosa, basin versus sensim deminute-floccosa. Flores saturate flavi, extus subepilosi, ligulae saepe cum pilis solitariis; stylus obscurus; achaenia bruneo-atra.

Crescit in alpinis calc. Tiroliae: in monte Wolferkofel in Schwarzenbach p. Luttach (1800 m), in monte Schlern inter Mahlknechtthütte et Rosszähne, in pratis alp. „Plätzwiesen“ pr. Schluderbach (copiose!), in jugo Fedajapass, in monte Höttingeralpe p. Innsbruck.

Formas magis pilosas cl. C. v. Naegeli invenit in Helvetia: Montagne de Fully, 2000—2200 m, et in Algovia: Rotwand p. Schliersee. — Floret Jul. Aug.

Exsiccatae: Dörfler, Herb. norm. cent. XXXII Nr. 3136 (sub nomine *H. villosioides* Murr).

Tab. 4, Fig. B. *H. Trefferianum* N. P. (e monte Höttinger Alpe, leg. Dr. Murr).

8. Hieracium sparsiramum Naeg.-Pet., Hierac. Mitteleurop. II p. 70, subspecies **Halense** Murr in Österr. bot. Zeitschr. (1895) p. 429 et in Koch Synopsis (ed Hall.-Wohlfahrt) p. 1771. — *Planta intermedia, probabiliter hybrida, inter H. glabratum* Hoppe et *H. bupleuroides* Gmelin. — Caulis 20—30 cm altus, subtenuis, subtiliter striatus, 1—2 cephalus.

Folia rosularia 4—6, anguste-lanceolata, acuta, basin versus sensim attenuata (exteriora minora emarcida); caulina 4—6, anguste lanceolata, sensim decrescentia, omnia flavo-vel olivaceo-viridia, glaucescentia, integerrima aut remote denticulata, pilosa, effloccosa, suberassa. Inflorescentia 1- vel furcato- 2 cephala; acladium 5—7 cm longum. Involucrum 13—14 cm longum, subglobosum; squamae sublatiusculae, sublatiusculae, longe acuminatae, acutae, in bracteas decrescentes, obscurae, exteriores obscure virides. Bracteae 3—4, lineari-lanceolatae, ciliatae. Pili involucri modice numerosi, 2—3 mm longi, apice diluti, in pedunculis dispersi, in caulibus nulli. Glandulae nullae. Flocci in pedunculis superne copiosi, inferne mox rarescentes et nulli, raro per tertiam partem caulis descendentes. Flores dilute-flavi, ligulae glabrae; stylus obscurus; achaenia castanea, 3,5 mm longa.

Crescit in alpinis Tiroliae: Halltal p. Innsbruck (ubi detex. loco exiguo Dr. Murr). — Floret m. Julio.

Exstat forma *tubulosa* in jugo Flexensattel p. Stuben versus Zürcher Alpe, Vorarlbergiae (Murr).

Tab. 5, Fig. A. 1—4. *H. sparsiramum* N. P. ssp. *Halense* Murr. 1. Planta spont. vallis „Halltal.“ 2, 3. Squamae. 4. Achaenium.

9. Hieracium sparsiramum N. P. l. c. p. 70, subspecies **Mediosilvanum** Murr et Zahn in Koch Synopsis (ed. Hall-Wohlfahrt) p. 1771. — *Planta hybrida inter H. villosum* L. ssp. *calvifolium* N. P. et *H. bupleuroides* Gmel. Habitus prioris. — Caulis 30 cm altus, subflexuosus, gracilis, subtiliter striatus, pilosus, furcato-ramosus. Folia rosularia in nostra planta emarcida; caulina 4—6, sensim decrescentia, lanceolata, superiora ovato-lanceolata, omnia basin versus ± attenuata sessilia, acuta, subundulata, remote-subdentata, glauca, rigidiuscula. Inflorescentia in planta nostra 2-cephala; acladium ad 17 cm longum. Involucrum 15—17 cm l., ovatum; squamae obscurae latiusculae acuminatae subacutae, exteriores latiores subfoliaceae, in bracteas sensim decrescentes. Bracteae 2—3, subfoliaceae. Pili involucri haud numerosi, 2—3 mm longi, apice diluti, caulomata et folia pilosa. Glandulae nullae. Flocci involucri sparsi, pedunculi superne leviter tomentosi, inferne mox deminuti, in caulibus nulli. Flores dilute flavi, ligulae pilosae; stylus obscurus; achaenia obscura, 3,5 mm longa, an fertilia?

Crescit in alpinis Bavariae: Dammkar p. Mittewald (detex. Dr. Murr). — Floret m. Julio.

Tab. 5, B. Fig. 1—4. *H. sparsiramum* N. P. ssp. *Mediosilvanum* M. et Z. 1. Planta spont. 2. 3. Squamae. 4. Achaenium.

10. Hieracium cenisium Arvet-Touv., Les Hieracium des Alpes franç. (1888) p. 32; Murr in Deut. bot. Monatschr. (1890) p. 109, Österr. bot. Zeitschr. (1893) p. 222, Allgem. bot. Zeitschr. (1895) p. 191; *H. dentatum* Hoppe ssp. *cenisium* Zahn in Koch Synopsis (ed. Hall-Wohlfahrt) p. 1796. — *Species intermedia inter H. villosum* L. ssp. *calvifolium* N. P. et *H. bifidum* (sensu lato) W. Kit., v. *inter H. glabratum* Hoppe et *H. incium* Hoppe. — Caulis 10—40 cm altus, subgracilis, subtiliter striatus, erectus, saepe monocephalus, raro 2—3 (—5) cephalus, basin versus saepe violascens. Folia rosularia obovata-lanceolata v. oblonga, in petiolum ± longe attenuata, subobtusumucronulata v. breviter acuta; caulina 2—5, inferiora basin versus attenuata-cuneiformia, superiora aequilata-sessilia vel basi rotundata, saepe subattenuata, acuminata acuta; omnia subintegerrima aut subdentata, rigidiuscula, glauca v. subpruinosa, saepe violaceo-maculata, glabra, in margine et subtus pilis mollibus brevibus subpilosa. Inflorescentia alte furcata, acladium 3—5 cm longum; rami primarii

1 (—4 monocephali, remoti, erecti v. oblique-erecti; involucrium c. 10—12 mm longum, ovatum; squamae angustae, acuminatae, acutissimae, adpressae, obscurae. Bractee 1—2, parvae. Pili involucri satis numerosi, caulomata superne minus pilosa, inferne glabra v. pilis solitariis obsita. Glandulae nullae, versus apicem squamarum rarissimae, minutissimae. Flocci involucri plerumque numerosi, pedunculi canotomentosi, caules inferne deminute-floccosi, basin versus effloccosi. Flores dilute flavi, ligulae glabrae v. subglabrae; stylus obscurus v. subluteus; achaenia matura subatra.

Crescit in alpinis calcar. Delphinatus, Sabaudiae, Tiroliae: Höttinger Alpe, Brenner, Ahrntal, Mte. Bondone, Mte. Baldo, Ampezzo.

Exsiccatae: Dörfler, Herbarium normale cent. XXXII Nr. 3140.

Tab. 6. 1—7. *H. cenisium* A.-T. (e monte Höttinger Alpe, leg. Murr). 1. Planta monocephala. 2. Folia rosularia. 3. Pedunculus sub involucrio. 4, 5. Squamae. 6. Flos. 7. Achaenium.

11. Hieracium glabratoides Murr. Österr. bot. Zeitschr. 1893 p. 221. (1895) p. 428; Zahn in Koch Synopsis (ed. Hall.-Wohl.) p. 1805. — *Species inter H. glabratum* Hoppe et *H. subspeciosum* N. P. ssp. *subspeciosum* Naeg. (Hierac. Mitteleurop. II p. 156 *intermedia, origine probabiliter hybrida*. — Caulis 20—50 cm altus, crassiusculus, substriatus, subflexuosus, furcatus. Folia rosularia 6—9, lanceolata, in petiolum brevem sensim angustata, subacuminata, acuta, denticulata v. subdentata; caulina 4—7, cito decrescentia, anguste lanceolata, basin versus subattenuata, acuta; omnia glaucescentia, submollia, glabra v. rarius in margine basin versus pilis paucis brevibus obsita. Inflorescentia 1—3 (—5) cephalae; acladium 4—7 cm longum; rami primarii 1—2 (—4), remoti, oblique erecti. Involucrium grande, 13—15 mm longum, ovato-globosum; squamae sublatiusculae, longe acuminatae, acutae, subobscurae. Bractee 3—5, lineari-lanceolatae v. subulatae. Pili involucri numerosi brevi, in pedunculis superne dispersi, inferne et in caulibus nulli. Glandulae nullae. Flocci involucri parum evoluti, pedunculi tomentosi, caulis usque ad medium deminute-floccosus. Flores dilute flavi, ligulae glabrae; stylus subobscurus; achaenia obscure brunea.

Crescit in alpinis calc. Tiroliae: Haller Salzberg p. Innsbruck, 1700 m, in consorcio *H. subspeciosum* N. P. et *H. glabrati* Hoppe, a quibus originem trahit (Dr. Murr). — Floret m. Jul. Aug.

Exsiccatae: Dörfler, Herb. norm. cent. XXXII Nr. 3135.

Tab. 7. 1—4. *H. glabratoides* Murr. 1. Planta orig. 2. Squamae. 3. Flos. 4. Achaenium.

12. Hieracium excellens Murr in sched. (1900) et in Koch Synopsis (ed. Hall.-Wohlfahrt) p. 1805. — *Species hybrida inter H. subspeciosum* N. P. ssp. *subspeciosum* Naeg. l. c. et *H. bupleuroides* Gmel. Habitus *H. bupleuroidis*. — Caulis 40—60 cm altus, strictus, striatus, crassiusculus, alte furcatus. Folia rosularia complura, saepe emarcida, lanceolata, basin versus sensim angustata-subpetiolata et sparsim pilosa; caulina 8—12, sensim decrescentia, lanceolata basin versus subattenuata, superiora basi subrotundata sessilia; omnia glauca, acuminata, acuta, remote denticulata (superiora integra), glabra, effloccosa. Inflorescentia 2—4 cephalae; acladium 3—5 cm longum; rami primarii 1—3, subremoti, oblique-erecti, graciles. Involucrium c. 14 mm longum, ovato-globosum; squamae sublatiusculae, acuminatae, obtusiusculae, subobscurae. Bractee 3—4, subulatae. Pili involucri sparsi vel subnumerosi, breves, basi obseuri, caulomata epilosa. Glandulae involucri subnullae, caulomata eglandulosa. Flocci

involucris satis numerosi, in pedunculis copiosi, inferne deminuti, in caulibus subnulli. Flores dilute flavi, ligulae glabrae; stylus obscurus; achaenia castanea-atra.

Crescit in Tirolia sub radicibus montis Solstein p. Innsbruck, ubi detexit exemplaria peropima Dr. Murr, specimina minora (rarissime) in monte Salzberg p. Hall. — Floret m. Julio.

Variat: β) **crininervum** Murr et Zahn in Koch Synopsis l. c. Folia subtus in nervo mediano pilis mollibus longis sparse pilosa. —

Tirolia: In monte Solstein p. Innsbruck.

Tab. 8. 1—7. *H. excellens* Murr. 1. Planta genuina (e monte Salzberg!). 2. Folium rosulae. 3. 4. Squamae. 5. Pedunculus involucris. 6. Flos. 7. Achaenium.

Sectio III. **Barbata** Gremli, Neue Beitrage zur Flora d. Schweiz III (1883) p. 47; Burnat et Gremli, Hieracium Alp. marit. (1883) p. 15; Zahn in Koch Synops. (ed. Hall.-Wohlf.) p. 1771 (1901): *Glandulifera* N. P., Hierac. Mitteleuropas II p. 241 (1889); *Villosa* Fries. Epicrisis p. 6 et p. 61 pp. (1862). — Folia pilis simplicibus \pm denticulatis oblecta, eglandulosa, \pm glauca, subtenuia v. subrigida, dense et longe pilosa, saepe subpilosa, interdum glabra; caulina nulla v. 1 (—2) evoluta parva. Caulis humilis simplex, rarissime furcato-ramosus 2—3 (in planta culta ad 5—) cephalus. Capitula subampla \pm globosa: involucris squamae angustae, vulgo longe acuminatae acutissimae, adpressae, effloccosae, pilis tenuibus numerosissimis longis sordide albidis v. fuliginosis v. subobscuris dense barbato-villosae. Glandulae ubique nullae, apicem squamarum versus subnullae, minutissimae¹⁾, interdum in caulem \pm evolutae v. caulis omnino glandulis numerosissimis oblectus. Ligulae apice non ciliatae. Achaenia minora quam in aliis Hieraciis (2,5—2,8 mm l.). — Crescunt in alpibus elatioribus.

13. Hieracium glanduliferum Hoppe apud Sturm. Heft 39 (1815); N. P., Hierac. Mitteleurop. II p. 243 (sensu lato), Zahn l. c. p. 1771.

Dispositio gregum.

I. Subnivale. Squamae involucris \pm obtusiusculae, non longe acuminatae acutissimae; folia subprasino-viridia.

II. Piliferum. Squamae involucris longe acuminatae acutissimae. Caulis eglandulosus, pilosus.

III. Amphigenum. Squamae ut in II; caulis \pm glandulosus et \pm pilosus.

IV. Glanduliferum. Squamae ut in II; caulis glandulosissimus, epilosus.

I. Grex Subnivale.

Subspecies **subnivale** (N. P. II p. 250, Zahn l. c.) Gren. et Godron, Fl. France II p. 356 (1850), Fries, Epicr. p. 26 (false in Subgenus Pilosella inserendum); Grieseb., Comm. p. 66. — Caulis 10—15 (—20) cm altus, tenuis v. gracilis, rigidus, semper simplex monocephalus, rarissime furcato-2cephalus. Folia rosularia numerosa, exteriora \pm spathulata (saepe mucronate) obtusa, interiora \pm lanceolata, acutiuscula v. acuta, non petiolata, basin versus angustata, integerrima, glaucescentia v. subpruinosa saepe subrubro- v. violaceo-colorata, rigidiuscula; caulina nulla v. bracteiformia. Involucrum 9—14 mm longum globosum; squamae sublatiusculae v. angustae, obtusiusculae, subnigrae, immarginatae, laxiusculae. Pili involucris numerosissimi albi sericei, 5—6 mm longi, in caule \pm numerosi, 6—8 mm longi, in foliis supra usque ad basin numerosi sericei flexuosi, 4—6 (—8) mm longi, subtus subnulli, folia

¹⁾ Apud Naeg.-Pet. II p. 241 et 243 squamae sunt „eglandulosae“, sed specimina copiosa mihi obvia sub lentem fere semper apicem squamarum versus glandulifera erant.

interdum subglabrata, solum in margine ciliata. Glandulae¹⁾ in involucrio nullae, in caule superne sparsae v. subnumerosae, inferne dispersae v. nullae. Flocci in involucrio et in foliis nulli, caulis superne albido-tomentosus, inferne usque ad basin deminute-floccosus. Flores dilute flavi, evoluti v. saepe abbreviati subtubulosi; stylus luteus v. \pm obscurus; achaenia 2,5 mm longa, griseo-brunea v. obscure brunea.

Crescit inter 1800—2400 m in alpinis Delphinatus: Col Isouard! Col de Paga, versant de la vallée de Serrières (loc. class.), Aiguille Rouge pr. Briançon! Mte Viso: Brèche de Ruines, Col Lacroix, Col Longet; Sabaudiae: Mont Cénis, Saut des Allues, Col Iseran, le Vallonot pr. Bonneval, le Galibier! le Mauvais-Pas pr. la Mer de Glace in valle Chamonix (sec. Arv.-T.); in Alpibus Maritimis Galliae: Col de Pourriac pr. Salzo-Morena; Italiae: Cima di Pian Bernardo, in monte Garessio, in alpe Rascaira, in valle Bellino et in alpinis vallis Maira; in alpinis Pedemontii: pr. Limone! — Floret m. Jul. Aug.

Exsiccata: Société dauphinoise no. 1289 (1880) et 1289 bis!

Tab. 9, Fig. C. 5, 6. *H. glanduliferum* Hoppe ssp. *subnivale* Godr. Gren. (e monte Aiguille Rouge pr. Briançon, Hautes-Alpes, leg. Brachet). C. Planta. 5. Squama. 6. Pedunculus sub involucrio.

III. Grex Amphigenum.

Subspecies **amphigenum** Arv.-Touv. in J. Briquet, Notes floristiques Alpes Léman. p. 21. (Annuaire du Conserv. et du Jardin botan. de Genève, 1889). — Habitus *H. piliferum* Hoppe, caulis pilis longis \pm dense vestitus, immixtis brevioribus glanduliferis sparsis vel parum numerosis. — Floret m. Jul. Aug.

Variat: α) **multiglandulum** N. P. II p. 248. Capitula 12—15 (—16) mm longa, globosa.

1. normale. Pili involucri numerosissimi fuliginosi v. subobscuri, folia utrimque \pm longe pilosa. — In alpinis Delphinatus, Helvetiae, Sabaudiae, Tiroliae et Carinthiae non infrequens.
2. subschraderi. Pili involucri numerosissimi subalbidi, folia utrimque \pm longe pilosa. — Cum praecedente, sed minus copiose.
3. tubulosum. Pili in involucrio et in foliis ut in 1, involucrium \pm depressum, flores tubulosi, stylus obscurus longe exsertus, planta saepe furcata. — In alpinis Helvetiae: in monte Grd. St.-Bernard, Simplon, Valserberg, Bernina, Tiroliae: in jugo Brenner, in alpinis vallis Virgental etc.

Exsiccata: Flora Austro-Hungarica no. 3332 II (sub nom. *H. piliferum*, e monte Blaser pr. Matrei, Tiroliae).

- β) **gracilisquamum** N. P. II p. 250; *H. piliferum* auct. quoad plantam pyrenaicam (Fries, Hierac. europ. exsicc. 34^b, Bordère exsicc!). Caulis humilis (6—12 cm), involucrium 10—11 mm longum, squamae angustissimae acutissimae. — In Pyrenaeis: in cacumine m. Pic Blanc! — Specimina copiosa mihi obvia semper in caule superne glandulifera erant, quod ex descriptione Naegeli-Peteriano non patet. — Sec. N. P. I. c. etiam in Delphinatu: Le Galibier pr. La Grave, et in Helvetia: in valle Binntal.

¹⁾ „Glandulae ubique nullae“ ex Fries Epicr. p. 26 et N. P. II p. 250, sed in caule superne semper evolutae, ut jam docent Godr. Gren. l. c., Grieseb. l. c., Burnat et Gremli c. l. p. 15.

Tab. 9, Fig. B. 3. 4. *H. amphigenum* A.-T. *a) multiglandulum* N. P. 1) *normale*. B. Planta (e jugo Schlüsseljoch iuxta jugum Brenner, Tiroliae, leg. J. Murr). 3. Squama. 4. Pedunculus sub involucri.

Subspecies **fuliginatum** Huter et Gander exs.! Oesterr. botan. Zeitschr. (1870) p. 338; *H. glanduliferum* 2. *fuliginatum* Arv.-Touv., Essai de Classificat. (1880) p. 6; *H. glanduliferum* \times *piliferum* Hut. et Gand. in sched., *H. glanduliferum* \times *villosum* Hut., Oesterr. bot. Zeitschr. l. c. — Inter *H. piliferum* et *H. glanduliferum* ssp. *hololeptum* N. P. quasi intermedia. Folia subglaucescentia, lanceolata v. anguste lanceolata acuta, saepe undulata. Caulis crassiusculus, rarissime furcatus. Pili involucri numerosi obscuri subsericei, in caule obscuri basin versus atri, breviores et densiores quam in subspecie priore, in foliis satis copiosi 3—4 mm longi, in exterioribus \pm nulli. Glandulae in caule dispersae inter pilos subocculatae. Stylus luteus v. subobscurus. Flores lingulati, subtubulosi v. tubulosi in eodem capitulo.

Crescit in alpinis Helvetiae: in monte Grd. St.-Bernard, Simplon, Valserberg, Tiroliae: in monte Geisstein pr. Kitzbühel, in montibus circa jugum Brenner, in vallibus Ahrntal, Virgental, Iseltal, in alpe Nemesalp pr. Sexten. — Flor. Jul. Aug.

Exsiccata: Flora Austro-Hungarica no. 3332 I (sub nom. *H. piliferum* e monte Berghalpe in valle Virgental!), F. Schultz, Herb. norm. n. s. c. I no. 95 (1871).

Tab. 9, Fig. A. 1, 2. *H. fuliginatum* Huter. A. Planta (e monte Platzerberg ad jugum Brenner, leg. J. Murr). 1. Squama. 2. Pedunculus sub involucri.

Species intermediae:

14. Hieracium dasytrichum Arv.-Touv., Monographie des Pilosella et des Hieracium du Dauphiné (1873) p. 25, Les Hieracium des Alpes françaises (1888) p. 36; Zahn in Koch Synopsis (1901) p. 1773 (sensu lato); *H. capnoides* A. Kerner apud N. P., Hierac. Mitteleurop. II (1889) p. 231 = **glanduliferum-villosum** N. P. l. c.

Dispositio gregum:

I. *Dasytrichum*. Involucri pilis obscuris sericeis et cum pedunculis glandulis raris v. dispersis vestiti; stylus obscurus; folia caulina 0—1. Inter *H. villosum* et *glanduliferum*.

II. *Capnoides*. Pili involucri albido-sericei; glandulae ubique nullae; stylus luteus; folia caulina 2—3. Inter *H. villosum* et *piliferum*.

II. Grex Capnoides.

Subspecies **dimidiatum** Huter! in sched., Zahn in Koch Synopsis (1901) p. 1773. — Caulis 25—28 cm altus, crassiusculus, subtiliter striatus, subflexuosus, profundissime furcatus 2-cephalus, pilis numerosis subsericeis albis vestitus, in parte superiore subcanotomentosus eglandulosus. Folia rosularia lanceolata, utrinque attenuata acutiuscula mucronulata, saepe subpetiolata, subundulata integerrima v. subdenticulata, flavescentia-viridia, utrinque molliter subpilosa; caulina c. 2; bractae in acladio 2—6 foliaceae. Capitula sat magna late globosa, demum depressa, ad 15 cm longa; squamae lineari-lanceolatae, exteriores saepe subfoliaceae adpressae virides, interiores obscurae, omnes longe acuminatae acutissimae, pilis numerosis albis sericeis basi obscuris 2—3 mm longis obsitae, apicem versus minutissime glandulosae, effloccosae. Flores lutei apice glabri, stylus luteus, achaenia matura castanea.

Crescit in monte Platzerberg! pr. Gossensass, Tiroliae. — Floret ab initio m. Aug.

Planta typica Huteriana ab nostra differt: statura minore, caule 1-cephalo, foliis pilis numerosioribus vestitis, capitulis dense villosis.

Tab. 10, Fig. A. 1—3. *H. dasytrichum* A.-T. ssp. *dimidiatum* Huter. A. Planta (e loco classico, leg. J. Murr). 2. Squama. 2. Ligula. 3. Pedunculus sub involucri.

Subspecies **capnoides** A. Kerner! in sched. apud N. P. l. c. p. 233; *H. dasytrichum* c) *subpiliiferum* Arv.-Touv. pp., Hierac. Alp. franç. p. 36. — Caulis 7—20 cm altus gracilis erectus rectus exstriatus. Folia rosularia complura, basin versus attenuata-subpetiolata, exteriora spatulata apice rotundata, interiora \pm oblongo-lanceolata acuta, subglaucescentia rigidiuscula integerrima saepe subundulata; caulina 2—3 parva lanceolata. Inflorescentia monocephala; involucrium 12—15 mm longum, ventricosum-globosum; squamae: exteriores sublatiusculae lineari-lanceolatae laxae, interiores angustiores lineares obscurae, omnes acutissimae. Pili involucri (3—4 mm l.) caulisque (5—7 mm l.) numerosissimi albi sericei, in foliis ubique numerosi mollissimi, 3—5 mm longi. Glandulae nullae. Flocci in involucri foliisque nulli, caulis superne canotomentosus, usque ad basin leviter tomentosus. Flores saturate lutei, ligulae apice glabrae; stylus luteus; achenia griseo-brunea, 2,8 mm longa, plerumque infertilia.

Crescit inter 2000—2300 m in alpinis Sabaudiae: Val Bona, Helvetiae: inter Fionney et alpe Louvie! in valle Bagnetal, in m. Catogne pr. Sembrancher, in alpinis supra Fully, Merezenbachalpe pr. Münster, Griesberg in v. Eginental, in monte Kalkberg supra Splügen; Algoviae: in montibus Hoefats; Tiroliae: inter Heiligkreuz et Vent in valle Oetzthal (loc. class. Kernerianus). — Floret Jul. Aug.

Tab. 10, Fig. B. 4—6. *H. dasytrichum* A.-T. ssp. *capnoides* A. Kerner. B. Planta (e loc. class., leg. R. de Benz). 4. Squama. 5. Ligula. 6. Pedunculus sub involucri.

15. Hieracium diabolinum N. P., Hierac. Mitteleurop. II (1889) p. 235 = **cerinthoides** < **villosum** N. P. l. c.

Subspecies **diabolinum** N. P. l. c. — Habitus *H. scorzonaeifolii* v. *H. villosi*. Caulis ad 45 cm altus gracilis erectus, inferne subflexuosus, superne subfractiflexus, subsquarrosos-ramosus. Folia rosularia ad 7, \pm petiolata, lanceolata v. latiora, obtusa, interiora acuta, denticulata v. remote sinuato-dentata, dilute viridia, mollia; caulina 4—8, modice decrescentia, infima in petiolum alatum attenuata, media basin versus subangustata sessilia, superiora latiora ovata, basi rotundata v. subcordata sessilia longe acuminata. Inflorescentia furcata (1—) 2—6 cephalae; accladium = $1\frac{1}{5}$ — $1\frac{1}{3}$ totius caulis; rami primarii (0—) 1—2 valde remoti graciles subarcuati erecti; ordines axium (1—) 2—3. Involucrium 12—14 (—17) mm longum, late cylindricum demum globosum speciosum. Squamae exteriores sublaxae angustae lineares acutissimae, interiores latae lanceolatae acuminatae obtusae v. obtusiusculae, interdum omnes acutae, olivaceo-atrae margine late pallidae. Bractae 4—5 remotae, omnes vel inferiores lanceolatae subfoliaceae v. lineares. Pili in involucri subnumerosi diluti, 2—2,5 mm longi, in pedunculis modice numerosi 3—4 (—7) mm longi, in caulibus inferne satis numerosi rigidi horizontaliter patentes, 3—4 mm longi, in foliis supra sparsi v. modice numerosi rigidiusculi, 1,5—2,5 mm longi, subtus subnumerosiores molliores, in margine nervoque mediano subtus satis numerosi, 2—3 mm longi. Glandulae in involucri et in pedunculis sparsae, in caulibus usque ad medium solitariae. Flocci in involucri dispersi, squamae margine subfloccosae, caulomata superne canotomentosa, inferne multiflocca v. basin versus effloccosa; folia effloccosa. Flores dilute flavi, ligulae apice glabrae v. parum ciliatae; stylus luteus v. fuscescens; achenia brunea, 3,5—3,8 mm longa, saepissime omnia fertilia.

Crescit inter 1350—1600 m in alpinis calcareis Pedemontii, Helvetiae: Creux de Champ! ad pedes montis Diablerets, Dent de Corjeon et Bonaudon! pr. Allières, in valle

Gasterental pr. Kandersteg!, inter Zermatt et Zmutt, in valle Lugnetz inter Campo et Vals-Platz!, in rupibus silvae Rheinwald pr. Nufenen, in montibus Jurae: Dôle, Rötiflüh et Creux-du-Van! — Floret Jul. Aug.

Variat: α) **genuinum** N. P. II p. 237. Folia caulina superiora e basi late ovata v. subcordata ovato-lanceolata, reliqua lanceolata basin versus attenuata. — Creux de Champ!

β) **megalodon** N. P. I. c. Folia omnia latiora, grosse dentata, infima lanceolata v. suboblunga, summa late ovata saepe subamplexicaulia; squamae omnes acutissimae; glandulae nullae; pili in pedunculis ad 7 mm longi. — Creux de Champ!

γ) **platyphyllum** N. P. I. c.; *H. scorzonerifolium* var. *insigne* Lager in sched. apud N. P. Folia radicalia saepissime oblona v. elliptica, vix petiolata, caulina sessilia, media basi rotundata, superiora ovata. Bractee subfoliaceae. Squamae omnes latiusculae acutae v. intimae acutiusculae, effloccosae, parum glandulosae. Folia superne in margine tantum disperse pilosa. Achaenia 4–4,3 mm longa. — Dôle, Rötiflüh, Dent de Corjeon, Zermatt, Campo, Nufenen. — Habitus *H. villosi*.

Species nobilis; pro *H. cerinthoides* < *villosum* habent Naegeli-Peter, et ad interim hoc loco insero, sed forsitan intermedia inter *H. humile* et *H. villosum* (*humile* < *villosum*).

Tab. 11. 1–8. *H. diabolinum* N. P. ssp. *diabolinum* N. P. α) **genuinum** N. P. (e loco classico Creux de Champ. in Ormonts, leg. ipse). 1. Ligula. 2, 3. Squamae. 4. Pedunculus sub involucrio. 5, 6. Achaenium cum pappo. 7. Pilus pappi. 8. Margo folii portio.

Sectio IV. **Oreadea** Fries, *Epicrisis* (1862) p. 82 pp., A. Peter in Engler-Prantl, *Die natürlichen Pflanzenfamilien*, IV. Teil, 5. Abteil. (1894) p. 375–387, Zahn in Koch Syn. (1901) p. 1775. — Folia distincte petiolata, pilis simplicibus \pm denticulatis oblecta, praecipue radicalia in margine et in nervo dorsali minutissime et parcissime glandulifera, glauca saepe subpruinosa v. olivaceo-viridia, rigidiuscula, supra v. solum marginem versus et in margine rigide pilosa (ut in *H. pilosella*) subsetosa, basin versus \pm attenuata; caulina nulla v. 1–2 evoluta. Caulis alte furcatus v. laxo paniculatus, inflorescentia \pm indeterminata, oligo- v. pleiocephala. Capitula submediocria, \pm cylindrico-globosa; squamae irregulariter imbricatae, exteriores fere semper multo breviores, reliquae cito longiores aequilongae, omnes subpilosae, modice glandulosae, parce aut dense v. densissime floccosae, apice subbarbulatae; dentes ligularum ciliatae, stylus luteus, alveoli margine manifeste dentati v. fibrilloso-dentati, achaenia subatra.

16. Hieracium Schmidtii Tausch, in *Flora* (1828), *Ergänzungs-Blatt* I p. 65, Koch *Synopsis* ed. 2 (1844) p. 522, Grisebach, *Comment. de distr. Hierac. gen.* (1852) p. 57; *H. rupestre* Schmidt, N. Abhandl. Böhm. bot. Gesellsch. I (1790) p. 58, tab. 9 (forma spithamea monocephala, pr. Raditsch ad fl. Moldau lecta = *H. Schmidtii* ζ) **uniflorum** Tsch. I. c.), non All.; *H. Sternbergii* Froel. in De Cand., *Prodr.* tom. VII (1838) p. 214; *H. pallidum* Fries, *Symbolae* (1848) p. 94 et *Epicrisis* (1862) p. 83 apud Gussone, *Florae Siculae Syn.* II (1842–43) p. 404, an Bivona fil., *Nuov. piant. ined.* (1813) p. 11? (caule pumilo 2–3 foliato, ex Gussone loc. cit.); *H. Gougetianum* Gren. et Godr., *Flore de France* II (1850) p. 368 pp.; *H. murorum* η Janus Gren. Godr. I. c. p. 372 pp.

Dispositio gregum:

I. *Schmidtii*. Folia caulina 0–1, rarissime 2, omnia subtus effloccosa. Squamae non longe acuminatae, parum floccosae, olivaceo-obscurae.

II. Crinigerum. Folia caulina 2—3 (—4) evoluta, reliqua ut in I. Planta in parte inferiore saepissime pilis rigidis copiosis sat longis oblecta. Inter *H. Schmidtii* Tausch et *H. onosmoides* Fries quasi intermedia.

III. Rupicolum. Folia caulina 0 (—1), omnia subtus \pm floccosa. Squamae angustae longe acuminatae cum pedunculis dense floccosae v. canotomentosae.

II. Grex Schmidtii.

Subspecies **cyaneum** Arv.-Touv., Hierac. Alp. franç. (1886) p. 69; *H. pallidum* Fries l. c. pp.; *H. Schmidtii* Tausch l. c. et mult. pp.; *H. comatulum* Jordan apud Boreau, Flore du Centre de la France 3. éd. (1857) p. 410, non N. P. — Caulis 20—50 cm altus subglandulosus, saepe epilosus v. subsetoso-pilosus, apice laxo paniculatus v. alte furcatus oligo- v. pleiocephalus. Folia glauco-viridia v. pallide glauca, interdum submaculata, elliptica, oblonga aut lanceolata, basin versus angustata rarius contracta longe petiolata, denticulata v. dentata basin versus saepe grosse dentata, supra glabra vel margine tantum \pm longe setoso-pilosa, subtus pallidiora disperse pilosa, in margine nervoque dorsali et in petiolo subrigide pilosa; caulina 0—1 angustata subpetiolata. Rami primarii 1—3 remoti suberecti, ordines axium 2—3, acladium 20—30 mm ($-\frac{1}{3}$ totius caulis); involucrium obscurum 9—11 mm longum ovato-cylindricum v. ovatum, basi rotundatum; squamae angustae acutae v. acutiusculae subpilosae v. parcepilosae, dense et breviter v. satis longe (saepe nigro-) glandulosae subfloccosae v. fere effloccosae; pedunculi superne subdense glandulosi \pm canotomentosi aut subfloccosi. Flores dilute lutei, ligulae apice subciliatae; stylus luteus, achaenia matura \pm atra.

Crescit in alpinis graniticis et schistosis Delphinatus, Sabaudiae, Vallesiae (inter 500—2000 m), in montibus Vogesorum, in monte Donnersberg Palatinatus, in Silva Nigra pr. Schramberg, in montibus Rhoen, in Saxonia, Silesia, Bohemia, Austria inferiore etc. — Floret Maio-Jul.

Tab. 12. 1—5. *H. Schmidtii* Tausch ssp. *cyaneum* Arv.-Touv. Planta (e monte Donnersberg, leg. ipse). 1. Squama. 2. Alveolum. 3. Ligula. 4. Caulis portio. 5. Margo folii portio.

Sectio V. **Vulgata** Fries, Epicrisis Hierac. (1862) p. 7 et 89 pp.; Peter in Engler-Prantl, Natürliche Pflanzen-Familien IV, 5 (1894) p. 375—387; Zahn in Koch Synops. (1901) p. 1779. — Folia distincte petiolata, pilis simplicibus \pm denticulatis oblecta, eglandulosa (rarissime una vel altera glandula sub lente mihi obvia), gramineo-vel dilute viridia, rare glaucescentia, saepissime mollia, ubique vel solum in margine et subtus molliter et subcrispopilosa, basi cordata, truncata, rodundata vel \pm attenuata; caulina aut 0—1 (—2) et caulis scapiformis (*H. silvaticum* L.), aut complura (*H. vulgatum* Fr.). Inflorescentia \pm determinata paniculata, rarius furcata, oligo-vel polycephala. Capitulae et squamae ut in sectio IV, glandulosae et pilosae vel solum glandulosae, fere semper \pm floccosae; dentes ligularum non ciliatae v. subciliatae; stylus obscurus rarius luteus; alveoli margine edentati v. parum dentati; achaenia \pm atra.

17. **H. silvaticum** L. Species plantarum ed. I (1753) p. 803, ed. II (1763) p. 1128 (pro var. *H. murorū*); Fries, Epicrisis (1862) p. 91, Zahn in Koch Synops. (1901) p. 1779; *H. murorum* Auct. plur., Fries, Symbolae (1848) p. 108, Grenier et Godron, Fl. de France II (1850) p. 372; *H. silvaticum* et *murorum* Peter l. c.

Dispositio gregum:

1. Involucrum 13—14 mm longum ovatum crassiusculum.

- I. Prasiophaeum. Tota planta prasino-viridis glaucescens; folia rigidiuscula basin versus profunde vel inciso-dentata, supra glabra saepe \pm bruneo-maculata, marginem versus, in margine ipso et in nervo dorsali petioloque longe et molliter albo-pilosa subvillosa; caulina 1—2, basi saepe subvaginantia. *Transitus Eusilvaticum* \rightarrow *Cerinthoidea*, *habitus H. silvatici*.

2. Involucrum 9—12 mm longum cylindrico-ovatum v. \pm cylindricum.

a. Folia \pm glaucescentia v. glauca.

- II. Heteroschistum. Folia supra vel saepissime in margine tantum subsetaceo-pilosa, ovata basi \pm cordata v. truncata; inflorescentia altefurcata pleiocephala, involucrum solum glandulosum v. pilis solitariis immixtis, stylus obscurus. Inter *H. cinerascens* Jord. et *Eusilvaticum* quasi intermedium (*Schmidtii* \ll *silvaticum*).

- III. Praecox. Folia supra glabra (autumnalia saepe subpilosa), bruneo-maculata, in margine et subtus submolliter pilosa, ovata, basi truncata v. attenuata et \pm grosse dentata; inflorescentia altefurcata v. laxe paniculata oligocephala v. pleiocephala; involucrum glandulosum et pilis parvis vel subnumerosis dilutis v. obscuris oblecta, stylus luteus, ligulae apice saepissime subciliatae.

b. Folia dilute v. gramineo- v. saturate viridia interdum subglaucescentia.

- IV. Bifidiforme. Folia gramineo-aut saturate viridia, parum pilosa supra saepissime epilosa, interdum submaculata, ovata v. oblongo-lanceolata, basi subcordata, truncata aut subattenuata, \pm dentata laciniatave, inflorescentia subfurcata v. laxe paniculata oligocephala; involucrum multifloccum v. leviter tomentosum, omnino glandulosum v. pilis sparsis immixtis, squamae saepe obtusiusculae, stylus luteus v. obscurus, ligulae apice glabrae. *Transitus Eusilvaticum* \rightarrow *bifidum*.

- V. Pleiotrichum. Folia gramineo-viridia saepe sublutescentia interdum subglaucescentia, utrinque subpilosa v. supra glabrescentia, cordato-ovata aut oblongo-lanceolata et basi \pm attenuata, dentata v. grosse dentata; inflorescentia altefurcata v. laxe paniculata oligocephala, involucrum parvifloccum, squamae nigrae longe acuminatae acutae, pilis glandulisque obscuris fere aequaliter mixtis, stylus obscurus, ligulae subspeciosae saepissime apice glabrae. *Transitus incisum* \rightarrow *Eusilvaticum*.

- VI. Cirritoides. Folia dilute viridia v. sublutescenti-viridia subpilosa ovata aut late lanceolata, basi truncata attenuatave, dentata v. laciniata basi subpinnatifida; inflorescentia altefurcata v. laxe paniculata oligocephala, involucrum fere semper \pm floccosum, squamae subobscurae angustae, longe acuminatae acutae, glandulis subdensis et pilis parum numerosis crispis apice dilutis basi atris oblectae (raro squamae omnino epilosae), stylus obscurus, ligulae minores ut in V, apice glabrae et saepe obscurius flavae. *Transitus cirritum* \rightarrow *Eusilvaticum*.

- VII. Pleiophyllogenes. Folia sublutescentia-viridia mollia utrinque pilosa, oblonga v. subovata basi rotunda truncatave, raro subcordata, dentata v. grosse et repando-dentata; inflorescentia paniculata polycephala, involucra elongata subcylindrica squamis angustis obscure olivaceis epilosis subfloccosis dense et breviter glandulosis. Pedunculi caulesque superne dense et breviter glandulosi et subcanotomentosi, fere usque ad basin multiflocci. *Transitus pleiophyllum* $<$ *Eusilvaticum*.

- VIII. Atropaniculatum. Folia saturate v. gramineo-viridia subpilosa, saepe in margine glandulis solitariis minutis obsita, ovata oblongave basi subcordata v. truncata, \pm dentata; inflorescentia laxe paniculata pleiocephala; involucrum squamae latiusculae nigrae parum floccosae, glandulis nigris longioribus dense obsitae, pedunculi caulesque superne nigro-glandulosi, stylus obscurus, ligulae saepe subglabrae v. glabrae. *Transitus Eusilvaticum* \rightarrow *atratum*.

- IX. Eusilvaticum. Folia \pm viridia mollia, cordato-ovata, ovalia v. oblonga, interdum oblongo-lanceolata, basi cordata, truncata, interdum subdecurrentia, utrinque pilosa v. supra glabrescentia, dentata basi grosse retrodentata, serrato-dentata v. sublaciniata v. multidentata v. etiam denticulata aut repando-dentata; inflorescentia paniculata pleio- v. polycephala, raro oligocephala, squamae angustae v. latiores, acutae v. obtusiusculae, apice saepe barbulate, subeffloccosae

nigrae v. \pm floccosae epilosae, semper cum pedunculis et caulibus superne densae et conspicue nigroglandulosae, stylus obscurus, ligulae apice glabrae v. parum ciliatae. Haec grex *centrum H. silvatici* sistere censeo.

X. *Exotericum*. Folia dilute viridia, saepe tenuia, pilosa aut subglabra; stylus luteus, reliqua ut in IX, glandulae saepe tenuissimae.

XI. *Oblongum*. Folia viridia v. obscure viridia, oblongo-lanceolata v. sublanceolata, utrinque attenuata (more *H. vulgati*), basi brevius v. protractius cuneiformia, denticulata v. serratodentata, caulina 1-2 \pm lanceolata; reliqua ut in IX; stylus obscurus v. saepe luteus. *Transitus Eusilvaticum* \rightarrow *divisum (silvaticum - vulgatum)*.

XII. *Crepidiflorum*. Folia sublutescenti- v. gramineo-viridia subpilosa v. glabrescentia, oblonga basi truncata v. subdecurrentia, denticulata dentatave, caulina 1-2-3 basi subvaginantia; inflorescentia patenti-paniculata pleio- v. polycephala, squamae pedunculique densissime glandulosae, stylus obscurus, ligulae apice interdum subciliatae. *Transitus Eusilvaticum* \rightarrow *Juranum*.

3. Involucrum 7—9 mm longum, tenue, gracile cylindricum.

XIII. *Tenuiflorum*. Caulis tenuis; folia mollia \pm pilosa, ovata v. oblongo-lanceolata, truncata v. subdecurrentia, denticulata v. dentata v. grosse repando-dentata; inflorescentia oligocephala v. pleiocephala, squamae angustae acutae v. acutiusculae, (cum pedunculis) glandulosae et pilosae v. solum glandulosae, parum floccosae v. subfloccosae. — Plantae gracillimae, in Italia superiore et in Helvetia australi non infrequentes, constanter (non pathologice) microcephalae.

4. Involucrum virescens, 10—12 mm longum, squamis latiusculis distincte obtusis.

XIV. *Grovesianum*. Folia sordide virentia subcoriacea, ovata basi truncata v. parum decurrentia, \pm dentata margine ciliato, caulina 0—1; squamae pedunculique glandulis mediocriter numerosis brevibus parum conspicuis vestitae, stylus fuliginosus, ligulae ochroleucae apice glabrae. *Transitus Eusilvaticum* $>$ *Italica*. — Prope Florentiam.

I. Grex *Prasiophaeum*.

Subspecies ***prasiophaeum*** Arv.-Touv. et Gautier, Hierac. nouv. pour la France ou p. l'Espagne, in *Bullet. Soc. bot. France*, tome XLI (1894) p. 349; Zahn in Koch Synops. (1901) p. 1780. — Caulis 40—50 cm altus gracilis v. crassus, \pm sparse et breviter pilosus subfloccosus, superne sparse v. modice glandulosus. Folia rigidiuscula, radicalia c. 6 longe petiolata, exteriora elliptica minora subobtusata, reliqua majora magis elongata, elliptico-lanceolata v. oblongo-lanceolata, utrinque abrupte v. sensim attenuata acuta mucronata, dentata v. grosse multidentata, basin versus laciniata v. pinnatifida, supra glabra lucida, prasino-viridia glaucescentia saepe subpruinosa v. etiam \pm maculata, subtus pallida disperse pilosa, in margine nervoque dorsali et praecipue in petiolo molliter albopilosa subvillosa, in nervo dorsali subfloccosa; caulina 1—2, breviter petiolata v. subattenuata sessilia subvaginantia acuta, superius lineari-lanceolata. Inflorescentia determinata squarroso-paniculata, (2—) 6- pleiocephala, acladium 2—3 cm longum, rami primarii 2 v. complures graciles, involucrum crassiusculum ovatum, 13—14 mm longum, squamae subangustae acutae nigricantes pallide marginatae, subfloccosae, densissime et obscure glandulosae pilis obscuris parum numerosis immixtis, pedunculi canotomentosi densissime glandulosi. Flores pallide lutei ochroleuci, stylus luteus demum fuscescens, ligulae apice saepe ciliatae; achaenia nigricantia, 3—3,5 mm longa.

Crescit in Pyrenaeis gallicis et hispanicis, in Helvetia: pr. Turicum (in muris ad fl. Sihl, leg. Kaeser)!, in Germania australi in lapidicinis pr. Durlach (leg. ipse)!, in Jura franco-nico in monte Staffelberg pr. Staffelstein (leg. Dr. Harz)!. — Floret Maio-Jun.

Exsiccata: Arv.-Touv. et G. Gautier, Hieraciotheca gallica no. 50—53, 238—244!

Tab. 13. *H. prasiophaeum* Arv.-Touv. (planta helvetica). 1. Squama. 2. Apex squamae.

3. Ligula. 4. Portio caulis. 5. Achaenium cum pappo. 6. Margo folii portio.

III. Grex Praecox.

Subspecies **glaucinum** Jordan, Catalogue des grains du Jard. bot. de Dijon (1848) p. 22 et apud Boreau, Flore du Centre de la France 3 éd. (1857) p. 410; *H. fragile* v. *mucronatum* Godr. et Grenier, Fl. d. France II (1850) p. 373; *H. praecox* v. *fragile* Arv.-Touv., Les Hieracium des Alpes franç. (1888) p. 81 ex p., Zahn in Koch Syn. (1901) p. 1781; *H. praecox* ssp. *fragile*, microspecies *glaucinum* Sudre, in Les Hierac. Centre France (1902) p. 85; *H. murorum* γ *plumbeum* Griseb., Comment. distr. Hierac. gen. (1852) p. 37 ex p. — Planta 3—5 dm alta, dilute viridis glaucescens. Folia petiolata ovata aut oblongo-lanceolata basi subcordata v. \pm contracta et subdecurentia, obtusa v. acuta mucronata, saepe praecipue basin versus grosse et longe dentata, dentibus mucrone glanduliformi terminatis, supra glabra saepissime bruneo-maculata, in margine nervoque dorsali et in petiolo pilis submolibus breviter subvillosa; caulina 0—1. Inflorescentia laxa paniculata v. altefurcata subsquarrosa oligo- v. pleiocephala; involucrum 10—12 mm longum crassiusculum ovatum, squamae subangustae acutae obscurae submarginatae, pilis subnullis v. paucis, glandulis densissimis atris et floccis parum numerosis obsitae, pedunculi canotomentosi dense nigro-glandulosi fere pilosi. Flores lutei, ligulae apice profunde dentatae subglabrae; achaenia atra.

Crescit in collibus et ad margines silvarum et in lapidicinis Galliae centralis, Helvetiae austro-occidentalis, Germaniae australis inter Schaffhausen, Basel et Bingen, Moraviae etc. — Flor. jam Maio, Jun.

H. fragile Jord., Observ. pl. crit. VII (1849) p. 34, Boreau l. c. p. 410, Godr. et Grenier l. c. p. 373, Fries Epicr. p. 93, huic simillimum est, sed folia latiora pilis rigidiusculis marginem versus obsita, capitula dense glandulosa et saepe subpilosa. Specimina *H. glaucini* et *fragilis* e manu cl. Jordan a me visa non conspicue different.

Exsiccatae: Arv.-Touv. et G. Gautier, Hieraciotheca gallica no. 648.

Tab. 14. *H. glaucinum* Jord. (planta badensis, in pinetis sabulosis planitiae rhenanae pr. Waghaeusel a me lecta). 1, 2, 3. Squamae. 4. Dentes ligulae. 5. Caulis portio. 6. Margo folii portio.

VI. Grex Cirritoides.

Subspecies **cirritoides** Zahn, in Koch Syn. (1901) p. 1782; *H. murorum* var. *subatratum* Arv.-Touv. pp. in sched. — Caulis ad 40 cm altus gracilis, inferne pilosus, supra medium disperse et \pm longe glandulosus et leviter tomentosus, inferne saepe usque ad basin subfloccosus. Folia radicalia c. 5, longe petiolata, ovata basi subcordata v. truncata saepe subattenuata, obtusa v. acuminata acuta, supra sparse subtus modice pilosa, in margine nervoque dorsali et etiam in petiolo pilis copiosis tenuissimis molliter pilosa, supra saturate viridia, subtus sordide viridia pallidiora, praecipue basin versus grosse pluridentata apicem versus integerrima; caulinum 0—1 \pm petiolatum, rhomboideo-lanceolatum in petiolum attenuatum aut lineari-lanceolatum acutissimum. Inflorescentia laxa paniculata suprafastigiata oligocephala, acladium ad 30 mm longum, rami primarii 1—2 (—3) remoti, involucrum 10—12 mm longum, squamae angustae, intimae acutissimae, dilute marginatae, parum floccosae, dense glandulosae, pilosae v. pilis dispersis breviter pilosae, pedunculi subdense glandulosi saepe pilosi canotomentosi. Flores lutei apice saepe saturate lutei glabri, stylus obscurus, achaenia atra.

Crescit inter 1600—2200 m in alpihus elatioribus Pedemontii: Vallée de Cogne!

Grd. St.-Bernard: aux Combes!; Helvetiae: Martigny!, Alpes de Bex!, Simplon!, Eginental!, Valserberg! Tiroliae: in jugo Sellajoch! — Flor. Jul. Aug.

Variat capitulis maioribus minoribus, squamis \pm floccosis, foliis \pm pilosis v. glabratiss etc.

Tab. 15. *H. cirritoides* Zahn (e monte Valserberg pr. Hinterrhein, Rhaetiae, leg. ipse). 1, 2. Squamae involucri. 3. Dentes ligulae. 4. Caulis portio. 5. Achaenium cum pappo. 6. Limbi folii portio.

XII. Grex Crepidiflorum.

Subspecies **subditivum** Murr et Zahn, Allgem. bot. Zeitschr. (1904) p. 99. — Caulis 20—50 cm altus strictus, basi saepe subrubescens. Folia saturate viridia breviter subpilosa v. supra omnino glabra, basi grosse dentata, in medio subdentata apicem versus denticulata, oblonga v. oblongo-lanceolata basi truncata vel utrinque attenuata; caulina 1—2, basi in petiolum \pm alatum subvaginantem attenuata v. subattenuata sessilia parum amplexicaulia. Inflorescentia subsquarroso-ramosa pleiocephala, rami primarii 2—3 (—4) remoti, acodium ad 20 mm longum; capitula ut in archetypo, squamae sublatiusculae obtusiusculae obscurae, cum pedunculis cauleque superne dense et satis longe nigroglandulosae, glandulae saepe usque ad medium caulis subnumerosae. Flores lutei, ligulae apice subglabrae, stylus obscurus, achaenia atra.

Crescit in Alpihus locis graminosis v. subsilvaticis et in subalpinis inter *H. Juranum* Fries vel *H. subalpinum* Arv.-Touv. et *H. silvaticum*, a quibus forsan originem trahit idque ita, ut *H. Juranum* cum *H. silvatico* (Grex Eusilvaticum) *H. subalpini* et *H. crepidiflori* formis quasi uno tractu conjungantur. — Floret Jul. Aug.

Variat β) **silvaticifolium** Zahn l. c. Folia oblonga basi truncata. — In valle Jaufental p. Sterzing, Tiroliae (leg. J. Murr).

γ) **extenuatum** M. et Z. l. c. Folia oblongo-lanceolata basi attenuata in petiolum decurrentia. — Ibidem.

Forma primaria gregis *Crepidiflorum* est *H. crepidiflorum* Polak, in Oesterr. bot. Zeitschr. (1884) p. 155 e subalpinis Sudetorum (Riesengebirge: Kleiner Teich, Grosse Schnee-grube etc.). Aliae formae *H. crepidiflori* in Helvetia: Grd. St.-Bernard, Martigny, Alpes de Grd.-Villars (Gruyère), Simplon, Eginental, Samnaun; Tirolia: Jaufen pr. Sterzing, Plaetzwiesen pr. Alt-Prags, Ahrntal; Vorarlbergia: Alpe St. Rochus in valle Gamperdonatal.

Tab. 16. *H. subditivum* γ) **extenuatum** M. et Z. (Jaufental). 1. Squama. 2. Dentes ligulae. 3. Caulis portio. 4. Limbi folii portio.

Grex IV. Bifidiforme.

Subspecies **bifidiforme** Zahn, in Reichb. Icon. tom. XIX 2 p. 17 (1905) et in Schinz et Keller, Fl. d. Schweiz ed. 2 (1905). — Inter *H. bifidum* Kit. et *H. silvaticum* L.; habitus *H. bifidi*, indumentum *H. silvatici*. Caulis 40—50 cm altus gracilis substriatus, supra medium multifloccus v. leviter tomentosus et parce glandulosus v. eglandulosus, inferne deminute floccosus et (praecipue basin versus) breviter subpilosus. Folia radicalia satis longe petiolata, ovata basi subcordata et breviter decurrentia vel truncata et subdecurrentia v. etiam basi contracta in petiolum satis longe decurrentia, obtusa v. interiora subacuminata acuta, dentata v. praecipue basin versus grosse dentata subsinuata v. subpinnatifida, gramineo-viridia subtus pallidiora aut subglaucescentia, submollia aut rigidiora, autumnalia saepe subcoriacea, supra

fere semper glabra rarius marginem versus parcepilosa, subtus breviter parcepilosa, in margine nervoque dorsali et etiam in petiolo pilis parum numerosis brevibus v. magis elongatis numerosioribus molliter pilosa; caulina 1 (—2), inferius subpetiolatum lanceolatum vulgo grosse dentatum et longe acuminatum, superius lineari-lanceolatum v. subulatum. Inflorescentia laxa paniculata v. altefurcata (ut in formis *H. bifidi*) oligocephala rarius pleiocephala, acladium (10—) 20—50 mm ($-\frac{1}{3}$ totius caulis), rami primarii 1—3 valde remoti arcuato-patentes v. erecti; involucrium (8—) 10—12 mm longum, squamae angustae, exteriores obtusiusculae, interiores acutiusculae v. acutae, obscure olivaceae dorso saepe subatrae, margine \pm virides, subfloccosae v. multifloccae, sat dense glandulosae, fere semper epilosae, pedunculi cano- v. albotomentosi epilosus, subglandulosus v. fere eglandulosus. Flores saturate lutei apice glabri, stylus obscurus, achaenia castanea v. matura atra.

Crescit in consortio *H. bifidi* Kit. (*H. subcaesium* Fries et auct.) in Helvetia: Martigny (Pacoteires! sur Alesse, 2000 m, leg. M. Besse), in jugo Simplonpass!, 1900 m (leg. E. Favre), in Ormonts! et pr. Kandersteg! (leg. Touton), in albis friburgensibus: Les Morteys! (leg. Jaquet), in valle Sertigtal pr. Davos et in monte Kalkberg supra Splügen (leg. ipse); Tirolia meridionalis: pr. Trient! (leg. Murr). In albis Hungariae! Dalmatiae! Croatiae! et Bosniae! — Floret Jul.—Aug.

Tab. 17, Fig. A. 1—5. *H. silvaticum* L. ssp. *bifidiforme* Zahn. A. Planta (e monte Simplon). 1. Squama. 2. Pedunculus sub involucrio. 3. Ligula. 4. Stylus. 5. Pilus stellatus.

Grex XIII. Tenuiflorum.

Subspecies **tenuiflorum** Arv.-T., in Cl. Bicknell, Fl. of Bordighera and S. Remo (1896) p. 173; *H. praecox* v. *tenuiflorum* Arv.-T. in herb. Chenevard. — Caulis (10—) 20—35 (—40) cm altus tenuis, inferne molliter pilosus, superne epilosus v. parcepilosus canotomentosus, modice v. sat dense et tenuiter glandulosus. Folia mollia tenuia, ovata v. oblongo-lanceolata, subobtusata v. acuta, basi truncata v. subdecurrentia saepe subcordata brevius longiusve petiolata, denticulata v. dentata saepe (praecipue basin versus) grosse repando-dentata, gramineo- v. saturate viridia subtus pallidiora, utrumque subpilosa v. supra \pm glabra, subtus in nervo dorsali et praecipue in petiolo densius pilosa v. in petiolo subvillosa; caulina 0—1 (—2) breviter petiolata v. attenuata sessilia saepe longe lineari-lanceolata. Inflorescentia \pm determinata paniculata saepe subumbellata, in formis autumnalibus interdum etiam \pm furcata, (2—) 5—10 (—20) cephalis, acladium vulgo 5—20 (—30) mm longum, rami primarii tenues erecti, (1—) 2—5 (—7) saepe conferti aut inferiores (1—2) remoti; involucrium (5—) 7—9 mm longum tenue anguste cylindricum, squamae angustae acutiusculae saepe acutae, interdum etiam obtusiusculae, apice subbarbulatae, dorso obscurae v. \pm atrae, subfloccosae, dense et tenuiter glandulosae, epilosae v. etiam parcepilosae, rarius subpilosae, pedunculi tenuissimi canotomentosi, subdense et saepe breviter glandulosi. Flores lutei, stylus demum fuscescens, ligulae apice glabrae, achaenia demum atra.

Crescit inter 200—1850 m in Italia superiore pr. Como, Lecco, Bellano, in vallibus Sassina, Varrone, in monte Legnone, in monte Generoso etc.; in Helvetia australi in valle Leventina pr. Faido, Biasca, Bellinzona, in montibus Mte Camoghé, Mte Ceneri etc.; in Valesia: Simplon (in valle d'Ossola usque ad Lacum Maiorem); in Rhaetia engadinensi in monte Ofenberg inter Zernetz et Cierfs. — Floret Maio-aestate.

Variat: α) **genuinum**. Involucri pedunculique epilos.

a) *verum*. Folia utrinque pilosa. — Non infrequens.

b) *glabrescens*. Folia supra fere pilosa. — Prope Lugano etc.

β) **pilosiceps**. Involucri pedunculique parcepilosi. — Prope Lugano.

Variat etiam foliis utrinque pilosis v. glabrescentibus.

Tab. 17, Fig. B. 6—8. *H. silvaticum* L. ssp. *tenuiflorum* Arv.-T. (planta helvetica e monte Simplon, leg. Chenevard). 6. Squama. 7. Pedunculus sub involucro. 8. Caulis portio (pars superior).

18. Hieracium divisum Jordan, Catalogue des grains du Jardin bot. de Dijon (1848) p. 21, et apud Boreau, Fl. du centre de la France (1857) p. 406, Sudre, Hierac. centr. France (1902) p. 62 pp.; *H. umbrosum**) Zahn, in Koch Synops. (1901) p. 1785 = **silvaticum-vulgatum** Zahn l. c.

Dispositio gregum:

- I. Medianum. Habitus *H. silvatici*; folia saturate viridia parcepilosa, basin versus \pm attenuata et \pm dentata, in petiolum subdecurrentia, immaculata; basalia oblonga obtusa aut \pm late lanceolata, caulina 2—4 breviter petiolata; caulis saepe iam infra medium in ramos elongatos erectos divisus; involucrum omnino glandulosum, rarissime pilis solitariis immixtis. — Huc pertinent *H. medianum* Griseb., *H. faucium* Sudre etc.
- II. Divisum. Habitus *H. silvatici*; folia \pm glaucescentia- (saepe sublutescenti-) viridia, supra glabra v. saepe subpilosa, sat magna, breviter v. sensim in petiolum attenuata, basin versus grosse dentata, immaculata rarius submaculata; basalia oblonga v. oblongo-lanceolata margine pilosa, caulina 2 (—3) remota basi cuneiformia et vulgo inciso-dentata; caulis ex alis superioribus v. iam a basi in ramos saepe valde elongatos erectos divisus; involucrum sat magnum pilis glanduliferis simplicibusque subaequaliter mixtis obsitum, rarius fere omnino glandulosum. — Huc pertinent *H. divisum* Jord., *H. Pollichiae* Sch.-Bip. etc.
- III. Onosmotrichum. Habitus *H. silvatici*; folia utrinque caulesque praecipue basin versus dense et subrigide pilosa (more *H. onosmoidis* Fr.), immaculata, basalia numerosa ovalia v. oblonga basi rotundata v. interiora subcuneiformia, a medio ad basin acute serrato-dentata, caulina 2 remota radicalibus similia, omnia rigidiuscula sublutescenti-viridia subglaucescentia; inflorescentia squaroso-paniculata, involucrum sat magnum, cum pedunculis dense et sat longe glandulosum epilosum. — Huc pertinet *H. onosmotrichum* Zahn.
- IV. Arenarium. Habitus *H. vulgati*; folia \pm glaucescentia, supra saepissime glabra et distincte bruneo-maculata, lanceolata v. oblongo-lanceolata utrinque attenuata in petiolum decurrentia, vulgo grosse dentata vel subincisa, caulina 2—4, saepe irregulariter serrato-dentata v. basin versus laciniata, rarissime folia minus profunde dentata v. denticulata; caulis ex alis superioribus v. iam supra basin in ramos \pm valde elongatos erectos divisus; involucrum cum pedunculis pilis longioribus simplicibus et glanduliferis brevioribus varie numerosis hirtum, rarissime fere solum glandulosum. Inter *H. vulgatum* Fr. et *H. praecox* Sch.-Bip. — Huc pertinent *H. cruentum* Jord. (non N. P.**), *H. arenarium* Sch.-Bip., *H. tinctum* Jord., *H. asperatum* Jord. etc.
- V. Commixtum. Habitus *H. vulgati*; folia saturate v. obscure viridia, vulgo parce pilosa, immaculata, omnia lanceolata utrimque attenuata, subaequaliter dentata v. denticulata, saepe submollia, caulina 2—3 radicalibus similia; caulis superne in ramos saepe elongatos erectos divisus, involucrum glandulosum et \pm pilosum v. tantum glandulosum. — Huc pertinent *H. commixtum* Jord., *H. pseudopollichiae* Oborny et Zahn etc.

*) Hoc nomen receperam ex Fries, Epicrisis p. 98 (qui vidit plantam Jordanianam sub nomine *H. umbrosum* in Catal. Dij. p. 24 enumeratam) et ex Gren. Godr., Fl. de France 2 p. 374; sed praefero nunc nomen antiquius et non dubiosum „*divisum*“.

**) *H. cruentum* N. P. (1886), non Jord. (1849) = *H. rubellum* (Koch Syn. ed. 2 II, anno 1844, p. 516, pro var. *H. sabini*) Zahn, in Schinz et Keller, Flor. d. Schweiz, 2 ed. (1905).

II. Divisum.

Subspecies **Pollichiae** Schultz-Bip., in Österr. bot. Wochenblatt (1853) p. 247, F. Schultz, Archives de Flore (1854—1869) p. 22 et 232; *H. praecox oxydontoides* Sch.-Bip., in Pollichia IX (1851) p. 40; *H. pallescens* var. *Pollichiae* Arv.-Touv., in Hierac. Alp. franç. (1886) p. 84; *H. divisum* ssp. *divisum* subvar. *Pollichiae* Sudre, in Hierac. Centr. France (1902) p. 69. — Caulis 40—50 cm altus crassiusculus, inferne subviolaceus dense et molliter pilosus subvillosus, superne subpilosus subeglandulosus parce floccosus, saepe angulato-striatus. Folia radicalia c. 4 satis longe petiolata, obovata-spathulata v. ovalia v. elliptica, apice rotundata obtusa aut acutiuscula, basi ± attenuata et in petiolum ± decurrentia, supra glabra glaucescentia, dilute et sublutescenti-viridia, subtus pallidiora, in margine et subtus praecipue in nervo dorsali et in petiolo submolliter subdenseque ciliata, acute dentata apicem versus denticulata; caulina 1—2 (—3) remota sat magna, radicalibus similia saepe magis dentata, in petiolum brevem alatum contracta. Inflorescentia valde suprafastigiata, (1—) 5—10 (—15) cephalis, acladium ad 30 (—40) mm longum, rami primarii (1—) 2—3 (—4) remoti valde elongati oblique erecti, ordines axium 4; involucrum 10—12 mm longum ovatum demum basi truncatum depressum, obscurum, squamae subangustae attenuatae acutiusculae intimae acutae, dorso obscurae margine olivaceo-virides, fere effloccosae, glandulis sat numerosis et pilis longioribus sparsis v. subnumerosis sordide albidis v. subobscuris vestitae, pedunculi multiflocci v. leviter tomentosi, dense glandulosi subpilosi. Flores dilute flavi, stylus demum obscurus, ligulae apice fere semper glabrae, achaenia matura atra.

Crescit in castanetis et ad silvarum margines Germaniae australis: Palatinatus, inter Neustadt et Dürkheim (loc. class.), Alsatie sup., in collibus subsilvaticis pr. Barr!, in Gallia centralis. — Floret Maio-Jun.

Variat: 1) *normale*. Folia supra glabra.

a) *verum*. Folia immaculata. Palatinatus.

b) *submaculatum*. Folia supra leviter maculata. Palatinatus, Gallia centralis.

2) *virescens* Zahn, in Koch Synops. (1901) p. 1786. Folia supra praecipue marginem versus subpilosa v. pilis parum numerosis obsita. Palatinatus, Alsatia.

Exsiccata: F. Schultz, Herbarium normale, cent. I no. 97!

Tab. 18. 1—3. *H. divisum* Jord. ssp. *Pollichiae* Sch.-Bip. 1) *normale* a) *verum* (e monte Waldburg supra Deidesheim, Palatinatus, leg. ipse). 1. Squama. 2. Pedunculus sub involucri. 3. Caulis portio.

IV. Arenarium.

Subspecies **arenarium** Schultz-Bip., in Pollichia XIII (1855) p. 23, F. Schultz, Archives de Flore (1854—1869) p. 22 et 232; *H. caesium maculatum* Sch.-Bip., in Pollichia X (1852) p. 24 et 28; *H. vulgatum-murorum* F. Schultz l. c. p. 22; *H. pallescens* c) *arenarium* Arv.-T., Hierac. Alp. franç. (1886) p. 84; *H. praecox-vulgatum* Zahn, in Koch Synops. (1901) p. 1786; *H. divisum* Jord. ssp. *divisum* subvar. *arenarium* Sudre, Hierac. Centr. France (1902) p. 69. — Caulis 30—45 cm altus gracilis saepe rigidus substriatus, inferne vulgo purpureo-violaceus et subvillosus, superne modice pilosus eglandulosus multifloccus. Folia radicalia ovato-lanceolata v. lanceolata, utrinque attenuata, sat longe petiolata, extima saepe ovata apice ± obtusa, omnia caesio-glaucula crassiuscula, antrorsum dentato-laciniata, supra glabra et saepissime intense rubro-brunco-maculata, maculis confluentibus maximam laminae partem obsidentibus,

infra pallida villosa-hirta, saepius purpureo-violacea, margine pilis subelongatis ciliata; caulina (1—) 2—3 (—5), inferiora ± petiolata radicalibus similia (interdum subpinnatifida), superiora decrescentia sessilia, in nervo dorsali saepe parce floccosa. Inflorescentia indeterminata suprafastigiata furcato-divaricata, rami primarii 2—5 (—6) sub angulo 40° circiter abeuntes, pilis albis patentibus hirsuti, acladium 10—40 mm longum, ordines axium 3—4, capitula (2—) 5—10 (—15). Involucrum 9—10 mm longum ovatum demum subglobosum, squamae subangustae acuminatae obtusiusculae v. partim acutae, atrovirentes, viridi- v. pallide marginatae, fere effloccosae v. subfloccosae, parum pilosae v. saepissime pilis albescentibus hirtae, quibus pauci glanduliferi immixta sunt; pedunculi subcanofloccosi fere eglandulosi v. subglandulosi, subpilosi v. rarius fere epilosi. Flores intense aurei apice glabri; stylus fuliginosus; achaenia atra.

Crescit in collibus subsilvaticis et ad margines silvarum Palatinatus Bavariae pr. Wachenheim! Deidesheim! et Münster a. Stein; Prussiae Rhenanae pr. Kreuznach et Münster a. Stein!; Nassoviae pr. Wiesbaden! (leg. Dr. Touton). — Floret Maio-Jun.

Planta satis variabilis:

α) **genuinum**. Pedunculi cum involucris pilis albis patentibus ± pilosi.

1) *normale*. Folia supra eximie maculata glabra.

a) *verum*. Folia dentata.

b) *pinnatisectum*. Folia, praecipue caulina, basin versus laciniata lobis longis lanceolatis, saepe cum caulis basi minus pilosa. — Kreuznach.

β) **calviceps**. Pedunculi cum involucris fere epilosi subglandulosi v. pedunculi fere eglandulosi. Variat foliis maculatis et immaculatis. — Münster a. Stein.

Exsiccata: F. Schultz, Herb. norm. cent. I no. 96!

Tab. 19, Fig. A, B. 1—7. *H. divisum* Jord. ssp. *arenarium* Schultz-Bip. α) *genuinum*. A. Planta immaculata (e monte Gans pr. Münster a. St., leg. ipse). B. Folia radicalia formae maculatae (ex eodem loco). 1, 2. Squamae. 3. Pedunculus sub involucre. 4. Dentes ligularum. 5. Pilus. 6. Pilus stellatus. 7. Marginis folii portio.

19. Hieracium vulgatum Fries, Novitiae Florae Sueciae ed. 1 p. 76 (1819, ed. 2 (1828) p. 258, Symbolae (1848) p. 115, Epicrisis (1862) p. 98; Koch Synops. ed. 2 (1844) p. 521; Grisebach, Comment. distr. Hier. gen. (1852) p. 42 pp.; Arv.-T., Hierac. Alp. franç. (1886) p. 85; Zahn in Koch Syn. (1901) p. 1783; *H. silvaticum* Lamarek, Dict. 2 (1786) p. 366, Gren. Godr., Fl. de France II (1850) p. 375.

Dispositio gregum (centroeuropaeorum):

A. Folia supra maculata.

I. *Maculatum*. Folia viridia supra distincte maculata, sat magna, ovata v. ovato-lanceolata, caulina 2—10 radicalibus similia; involucrum solum glandulosum v. pilis raris immixtis; stylus demum fuliginosus. — Huc pertinent *H. approximatum* Jord., *H. maculatum* Sm. etc.

B. Folia non maculata, rarissime inconspicue maculata.

α. Folia radicalia maiora complura silvaticiformia.

II. *Argillaceum*. Folia radicalia distincte rosulata ovata basi rotundata v. breviter contracta, caulina 4—6 radicalibus similia sed minora, omnia dilute viridia saepe sat magna; involucrum solum glandulosum; stylus luteus. — Huc pertinet *H. argillaceum* Jord. etc.

β. Folia radicalia vulgo pauca, basin versus sensim angustata utrinque attenuata caulibus ± conformia, omnia apicem caulis versus sensim v. abrupte decrescentia.

1. Involucrum pilis obscuris v. dilutis et glandulis parvis v. minutis fere aequaliter mixtis obtectum.

- III. *Acroleucum*. Involucrum gracile v. parvum ubique \pm floccosum, squamae angustae lineares, glandulis densis obsitae, marginibus latiuscule floccoso-limbatae; folia laete v. pallide viridia, sparsim \pm dentata rarius ad basin \pm longe dentata, parum pilosa. — Huc pertinet *H. acroleucum* Stenstr. etc.
- IV. *Vulgatum*. Involucrum crassiusculum saepe sat magnum, minus floccosum, squamae \pm latae lanceolatae, glandulis sparsis v. densiusculis obsitae, dorso subeffloccosae, marginibus leviter v. sat dense floccoso-limbatae; folia obscure viridia, subtus vulgo \pm intense violacea, longius et magis acute parce dentata, vulgo densiuscule pilosa. — Huc pertinet *H. vulgatum* (Fr.) Dahlst.
- V. *Mertini*. Involucri squamae fere effloccosae v. solum ad basin v. etiam in marginibus sparsim floccosae, angustae aut \pm latae \pm lanceolatae, glandulis sparsis v. subnumericis et pilis sat densis (v. interdum raris) \pm obscuris apice dilutis obsitae; folia \pm gramineo-viridia saepe subglaucescentia, basalia ovato-lanceolata v. lanceolata, dentata v. inaequaliter dentata v. sat grosse et late dentata vel longe pinnato-dentata, caulina (3-) 6—12 (—20) vulgo ad basin longe 3—4 dentata vel pinnato-laciniata. — Huc pertinent *H. Mertini* Gmel., *H. pinnatifidum* Lönner., *H. sciaphilum* auct. pp., *H. macrotonum* Dahlst. etc.
2. Involucrum glandulis minutis mediocribusve et pilis obscuris v. dilutis paucis (rarioribus quam glandulae) obsitum v. vulgo solum glandulosum.
- * Involucrum multifloccum.
- VI. *Tephrofloccum*. Involucra ubique dense v. sat dense floccosa saepe microglandulosa, pedunculi albido-tomentosi; folia rigidiuscula oblongo-lanceolata saepe grosse dentata, caulina 4—7; caulis \pm crassiusculus rigidus. — Huc pertinet *H. tephrofloccum* Zahn.
- ** Involucrum modice vel parce floccosum.
- VII. *Acuminatum*. Involucra (et pedunculi) dense glandulosa saepe microglandulosa; caulis vulgo elatus crassiusculus rigidus, foliis 6—12 rigidiusculis aut \pm tenuibus lanceolatis v. late lanceo, latis acute et saepe sat longe dentatis obsitum. — Huc pertinent *H. acuminatum* Jord. *H. fastigiatum* Fr. Epicr. pp., *H. sciaphilum* auct. pp. etc.
- VIII. *Nudiceps*. Involucrum minute glandulosum, pedunculi canotomentosi eglandulosi v. glandulis rarissimis tenellis inconspicuis obsiti; caulis gracilis paucifolius; folia ovato-lanceolata v. late lanceolata tenuia acute dentata, caulina 3—5. — Huc pertinet *H. nudiceps* Čelak. etc.
- IX. *Irriguum*. Involucrum glandulis minutis mediocribusve et pilis brevibus solitariis v. paucis obsitum v. solum glandulosum, in marginibus squamarum leviter v. subdense floccosum, rarissime fere effloccosum; caulis gracilis v. crassiusculus 2—6 folius, folia ovato-lanceolata v. lanceolata \pm dentata, basalia saepe solum denticulata, caulina saepissime apicem versus \pm sanguinea. — Huc pertinet *H. irriguum* Fr. etc.
- *** Involucrum effloccosum raro marginibus parum floccosum, dense glandulosum, saepissime epilosum; folia caulina abrupte decrescentia, squamae involucri pauciseriales.
- X. *Anfractum*. Stylus obscurus; involucrum atrum nitens v. viride, glandulis brevibus \pm numericis obsitum, squamae in marginibus parce floccosae; folia glabriora. — Huc pertinet *H. anfractum* Fr. etc.
- XI. *Diaphanoides*. Stylus obscurus; involucrum atrum, glandulis elongatis numerosissimis obsitum, squamae effloccosae v. in margine tantum floccosae; folia \pm dense pilosa. — Huc pertinet *H. diaphanoides* Lindbg. etc.
- XII. *Diaphanum*. Stylus luteus; involucrum fere effloccosum, glandulis parvis crebris nigris obiectum; folia glabriora. — Huc pertinet *H. diaphanum* Fr. etc.

Grex I. *Maculatum*.

Subspecies **approximatum** Jordan, Catal. grains Jard. Dijon (1848) p. 20, et apud Boreau, Fl. Centre France 3 éd. (1857) p. 403, De Matrin-Donos, Florul. du Tarn (1864) p. 441, Sudre, Hierac. Centr. France (1902) p. 59; *H. maculatum* Zahn, in Koch Syn. (1901) p. 1784 (sens. lat.). — Caulis 30—80 (—100) cm altus gracilis aut crassus anguloso-striatus saepe (apicem versus) subsulcatus, inferne molliter pilosus basin versus subvillosus, superne

breviter parcepilosus multifloccus v. leviter tomentosus, usque ad basin subfloccosus. Folia subcoriacea sat magna, radicalia c. 5—7 petiolata elliptica v. ovato-lanceolata rarius lanceolata obtusiuscula v. breviter acuta, basin versus sensim attenuata in petiolum subalatum decurrentia, margine denticulata basin versus acute dentata, supra dilute viridia saepe subprasina distincte bruno- v. obscure maculata, vulgo glabra rarius parcepilosa v. in margine tantum et subtus cum petiolis breviter pilosa, in nervo dorsali subfloccosa, subtus pallidiora saepe etiam maculata; caulina 3—10 radicalibus conformia, inferiora attenuata-subpetiolata, sequentia abrupte attenuata sessilia, omnia \pm acuminata acuta sensim decrescentia, superiora subtus subfloccosa. Inflorescentia paniculata suprafastigiata pleio v. polycephala, aeladium 20—30 cm longum, rami primarii 5—10 valde remoti elongati, leviter tomentosi parcepilosi, oblique erecti, ordines axium 4; involucrum 9—11 (—12) mm longum globosum, demum late depressum, squamae dorso obscurae subangustae obtusiusculae, exteriores angustiores, interiores margine pallidae, omnes utrinque v. interiores margine tantum subfloccosae, dense et breviter sublutescenti-glandulosae fere semper epilosae, pedunculi canotomentosi, modice breviterque glandulosi fere epilosi. Flores subaurei, ligulae apice glabrae, stylus fuscus, achaenia atra.

Crescit in collibus lapidosis, ad margines silvarum et in lapidicinis regionum calidiorum Galliae centralis, Helvetiae austro-occidentalis, Germaniae mediae et australis, Tiroliae, Austriae inferioris, Moraviae, Bohemiae, Silesiae, Hungariae etc. — Floret Maio-Jul.

Variat: $\alphagenuinum. Caulis elatus, (3—) 4—7 folius, foliis dentatis ovato-lanceolatis. — Non infrequens.$

β) **naevuliferum** Jord., apud Boreau l. c. p. 404; *H. Thuringorum* Sagorski exsicc. Folia ampla, radicalia \pm ovalia breviter acuta, eximie maculata, caulina 2—3 (—5) ovata v. ovato-lanceolata, basi abrupte contracta subsessilia breviter acuminata acuta, omnia vulgo denticulata. Habitus ut in *H. diviso*. — Gallia media, Germania media et australis.

γ) **inquinatum** Jord., apud Boreau l. c. p. 404; *H. maculatum* Smith, Engl. Flora III p. 360 p. max. p. Folia radicalia ovalia v. elliptica obtusa v. acutiuscula, caulina 2—3 superiora saepe valde decrescentia, omnia vulgo denticulata; inflorescentia indeterminata. — Ad silvarum margines; Gallia centralis, Germania australis, Anglia.

Tab. 20. 1, 2. *H. vulgatum* Fr. ssp. *approximatum* Jord. (in Magniducatu Baden pr. Durlach, leg. ipse). 1. Squama. 2. Caulis portio.

Grex VII. Acuminatum.

Subspecies **acuminatum** Jordan, Catal. Grenoble (1849) p. 17, et apud Boreau, Fl. Centr. France 3 éd. (1857) p. 396 pp., Arv.-T., Hierac. Alp. franç. (1886) p. 86; *H. silvaticum* var. ? *acuminatum* Godr. Gren., Fl. France II (1850) p. 375; *H. fastigiatum* et *sciaphilum* auct. pp. — Habitus saepe *H. tridentati* Fr. Caulis 50—80 (—100) cm altus gracilis v. crassiusculus anguloso-striatus, inferne molliter pilosus basin versus subviolaceus densipilus, superne virescens parcepilosus et parcefloccosus, vulgo hypophyllopodus. Folia vulgo rigidiuscula gramineo-viridia subtus pallidiora, radicalia saepissime emarcida v. 1—2 evoluta late lanceolata caulinibus conformia, caulina numerosa, 7—12, sensim decrescentia, inferiora (saepe subconferta) saepe sat longe petiolata late lanceolata v. oblongo-lanceolata, utrimque attenuata acutiuscula v. vulgo acuta, in petiolum sensim decurrentia, media brevius petiolata, superiora basi cuneiformia, fere omnia longe acuminata acuta utrinque 4—6 dentata v. \pm

grosse serrato-dentata apicem versus integerrima, vulgo ubique breviter subpilosa v. supra glabra saepe subtus v. apicem versus subviolascens. Inflorescentia paniculata suprafastigiata pleiocephala. acladium 10—20 mm longum, rami primarii (3—) 5—10 remoti oblique erecti tenues elongati, leviter tomentosi subepilosi modice glanduliferi, ordines axium 4; involucrium 9—10 mm longum ovatum demum depressum, squamae subangustae acutiusculae, dorso obscurae ubique parce floccosae v. margine tantum dense floccosae, dense et obscure glandulosae vulgo epilosae, pedunculi canotomentosi, modice v. sat dense et obscure glandulosi vulgo epilosi. Flores dilute aurei, ligulae apice glabrae, stylus obscurus, achaenia atra.

Crescit in collibus subsilvaticis regionum calidiorum Galliae centralis, Helvetiae austro-occidentalis, Germaniae mediae et australis, Silesiae, Bohemiae, Moraviae, Tiroliae, Austriae inferioris, Hungariae etc., in alpinis usque ad 1500 m. — Floret Jul.-Aug.

Tab. 21. 1—5. *H. vulgatum* Fr. ssp. *acuminatum* Jord. (ad silvarum margines pr. pagum Dobel inter Pforzheim et Baden-Baden, leg. ipse). 1. 2. Squamae. 3. Pedunculus sub involucrio. 4. Pilus stellatus. 5. Glandula.

Grex IV. *Vulgatum*.

Subspecies **lonchodes** Murr et Zahn, in Österr. bot. Zeitschr. (1902) p. 352; *H. melanops* et *rubescens* Arv.-T. in sched. herb. Murr, apud Murr in Deutsch. bot. Monatschr. (1890) p. 109 et in Allg. bot. Zeitschr. (1895) p. 232, non Arv.-T., Hierac. Alp. franç. (1886) p. 75, nec Jord.; *H. vulgat.* v. *subalpestre* Murr, Deut. bot. Monatschr. (1900) p. 53, non Norrl. — Caulis tenuis v. gracilis, 25—40 cm altus striatus molliter et breviter pilosus, basin versus subviolaceus magis pilosus, superne virescens subfloccosus et glandulis paucis tenuibus munitus, phyllopodus. Folia tenuia vulgo saturate viridia subtus paulo pallidiora, radicalia 2—4 ± longe petiolata ovato-lanceolata v. late lanceolata utrinque attenuata, rarius exteriora basi contracta, caulina radicalibus similia, 2—3 remota longe acuminata breviter petiolata v. superiora basi cuneiformia subsessilia, summum lineari-lanceolatum aut subulatum, omnia acute denticulata v. dentata mucronulata, vulgo utrinque pilis mollibus brevibusque subpilosa petiolo magis piloso, saepe subviolascens. Inflorescentia laxa paniculata saepius ± altefurcata, oligocephala, acladium 25—35 (—60) mm longum, rami primarii 2—4, infimi valde remoti v. saepe non evoluti, oblique erecti tenues elongati, leviter tomentosi breviter pilosi et tenuiter subglandulosi, ordines axium 3, capitula 2—5 (—10); involucrium 10—11 mm longum ovato-cylindricum demum ovatum basi rotundatum, squamae subangustae acuminatae acutiusculae, dorso obscure virides effloccosae solum in margine parciflocae, omnino pilis modice numerosis brevibus apice dilutis et glandulis tenuibus rarioribus v. pariter numerosis immixtis vestitae, exteriores angustiores et breviores, interiores margine e viridi pallentes, pedunculi leviter cani breviter pilosi et tenuiter glandulosi. Flores dilute aurei, ligulae apice glabrae, stylus fuscus, achaenia atra.

Crescit locis silvaticis et humidiusculis subalpinis et alpinis Tiroliae: Pitztal (leg. Evers), Innsbruck (leg. Murr), Paznauntal (leg. ipse); Vorarlbergiae: in jugo m. Arlberg (leg. Murr). — Flor. Jul. Aug.

Tab. 22, Fig. A, B. 1—8. *H. vulgatum* Fr. ssp. *lonchodes* M. et Z. A. Planta (e jugo Waldrast p. Innsbruck). B. Inflorescentia plantae e valle Pitztal. 1—4. Squamae. 5. Caulis portio. 6. Dentes ligulae. 7. Achaenium. 8. Portio limbi folii.

Species intermediae:

20. Hieracium Prediliense Naeg.-Pet., Hierac. Mittel-Europas II (1886) p. 60 (sub nomine *H. illyricum* ssp. *prediliense*); *H. Prediliense* Zahn, in Koch Synops. (1901) p. 1787 = **silvaticum-porrifolium** Naeg.-Pet. l. c. p. 61, Zahn l. c.

Subspecies **Prediliense** N. P., Zahn l. c. — Caulis ad 40 cm altus gracilis, apicem versus ramosus, phyllopodus, inferne subdense et molliter albopilosus, superne parcepilosus, fere usque ad basin deminute floccosus, eglandulosus. Folia rosularia pauca, ± petiolata, lanceolata, remote denticulata, acuta, rigidiuscula, + glaucescentia, supra glabra, in margine et subtus subpilosa v. in nervo mediano subvillosa; caulina 5—8, sursum sensim decrescentia et minus pilosa, inferiora subpetiolata, superiora sessilia linearia integerrima, in nervo dorsali subfloccosa. Inflorescentia laxa paniculata oligocephala, acladium 10—20 mm longum, rami primarii 3—6 subconferti, tenues haud turbinati, ordines axium 2—3; involucrum 8—9 mm longum ovatum, squamae sublatiusculae acutiusculae, obscurae parum dilute marginatae, breviter parcepilosae v. subepilosae, disperse glandulosae, sat dense floccosae margine tomentosae, pedunculi leviter tomentosi fere eglandulosi epilosi. Flores saturate lutei, ligulae apice glabrae, stylus subluteus v. fuscescens, achaenia atra.

Crescit in jugo Predilpass!, Carinthiae (leg. R. de Benz). — Flor. Jul.-Aug.

Tab. 23. 1—7. *H. Prediliense* N. P. ssp. *Prediliense* N. P. 1, 2. Squamae. 3, 4. Caulis portiones. 5. Margo ligularum. 6. Folii caulini portio: pars aversa. 7. Marginis folii portio.

21. Hieracium Fluminense A. Kerner, Österr. bot. Zeitschr. (1874) p. 171, N. P., Hierac. Mittel-Europ. II (1886) p. 29 emend. in nota = **silvaticum-glaucum**; *H. caesium* ssp. *Fluminense* Zahn, in Koch Syn. (1901) p. 1790. — Caulis 15—25 cm altus gracilis, superne subtomentosus inferne usque ad basin subfloccosus, alte furcatus. Folia viridia ± glaucescentia rarissime submaculata, rosularia complura, exteriora minora, obovata v. oblonga spathulata ± silvaticiformia, intima oblongo-lanceolata lanceolatave, abrupte v. sensim in petiolum angustata petiolata, acute denticulata v. praecipue basin versus ± grosse dentata, apicem versus abrupte v. sensim acuminata acuta, margine subpilosa v. fere epilosa, in nervo mediano petioloque breviter ciliata, subtus modice v. sat dense floccosa; caulinum 0—1, anguste lanceolatum v. lineare, elongatum. Inflorescentia (1—) 2—5 (—7) cephalata, acladium (10—) 25—40 mm longum, rami primarii 2—3 (—4) inferiores remoti, ordines axium 2—3; involucrum ovatum, squamae obscure canae, dilute marginatae, sublatiusculae acuminatae obtusiusculae v. intimae acutae, canofloccosae, disperse pilosae, fere eglandulosae; pedunculi canotomentosi epilosi eglandulosi. Flores saturate lutei, ligulae apice glabrae, stylus fuscus, achaenia atra.

Crescit locis petrosis calcareis pr. Fiume (ad viam „Luisenstrasse“ non procul a Porta Hungarica loc. class. Kernerianus, et a „Banska vrata“ ad viam Žakaljšenskem, in saxosis vallis Recina, leg. Pichler); insula Veglia (Dre Catti); in fagetis m. Laginac supra Ostarje, Dalmatiae (leg. Pichler, sub nom. *H. canescens*), et in rupibus pr. Conisco non procul a Sign (leg. Pichler, sub nom. *H. lasiophyllum*). — Flor. iam Maio, Jun.

Exsiccata: Flora exsicc. Austro-Hungarica no. 3351! (Fiume).

Tab. 24. 1—8. *H. Fluminense* A. Kern. (e loc. class., leg. Hirc). 1, 2. Squamae. 3. Caulis portio. 4. Ligularum margo. 5. Folium caulinum: portio e parte aversa. 6. Pars aversa folii rosularis. 7. Achaenium. 8. Marginis folii portio.

22. Hieracium Ganderi Hausmann, apud Huter in Österr. botan. Zeitschrift 1870 p. 338 et in sched.; Nyman, Conspectus Fl. Europaeae II 1879 p. 443 sub *H. fasciculare* Fr. [non *H. Ganderi* Huter olim et in herb. Schultz-Bip., nec Nyman l. c. p. 440 sub *H. cydoniaefolium* = *ochroleucum* Schl.]; Zahn, in Koch Synops. (ed. Hallier-Wohlfahrt, 1901) p. 1788 sub *H. Mureti* = **silvaticum** < **glaucum** (v. *bifidum-glaucum*) Zahn l. c.

Subspecies **Mureti** Gremli, Neue Beiträge z. Flora d. Schweiz III (1883) p. 17 et in Exkursionsfl. d. Schweiz, ed. 5 (1885); Zahn l. c.; *H. politum* Christener, Hieracien d. Schweiz (1863) p. 13; Gren. Godron, Fl. de France II (1850) p. 355 pp., apud Grenier in litt. ad Christener; nec Grisebach, Comment. (1852) p. 73, nec Fries, Symb. (1848) p. 84, Epicrisis (1862) p. 73. — Caulis 15—30 cm altus gracilis oblique erectus saepe subflexuosus, supra medium vel usque ad basin squarroso-ramosus, phyllopodus, epilosus, eglandulosus, usque ad basin ± floccosus; rhizoma crassiusculum, saepe pluricaule. Folia rosularia numerosissima, in petiolum brevem saepe brevissimum sensim attenuata, exteriora breviora oblongo-lanceolata acutiuscula, interiora ± longiora lanceolata v. anguste lanceolata acuta, denticulata v. breviter serrato-dentata v. praecipue basin versus interdum ± grosse dentata, raro subintegerrima, utrinque pilosa v. subtus praecipue in nervo mediano ut in margine petioloque sparsim et breviter pilosa saepe in petioli basi pilis paulo numerosioribus obsita; omnia saturate viridia glaucescentia, supra interdum submaculata, subtus saepe subfloccosa v. dense floccosa, saepissime ± crassiuscula, interdum sat parva; caulina saepissime bracteiformia linearia v. subulata, rarius unum evolutum, profunde insertum, radicalibus simile. Inflorescentia ± indeterminata, rami primarii 1—2 (—3) valde remoti, arcuato-erecti, graciles, 2—3 cephalii, acladium $\frac{1}{5}$ — $\frac{1}{2}$ totius caulis exhibens, capitula 3—10; involucrium 10 mm longum, ovatum, primo saepe subturbinatum, postea basi truncatum; squamae angustae, obtusiusculae, obscurae, multiflocae v. subcanotomentosae, omnino epilossae et eglandulosae rarius pilis brevibus solitariis obsitae; bractee subnumerosae, sub involucrio saepe subconfertae; pedunculi apicem versus subincrassati, canotomentosi, epilossi, eglandulosi. Flores saturate lutei, ligulae apice glabrae, stylus obscurus, achaenia atra.

Crescit locis sabulosis calcareis in alpinis Helvetiae orientalis inter 1300—2000 m: Lenzer Heide pr. Chur (loc. class., Muret, Christener), inter Lenz et Chur (Muret), Arosa (Brügger), Schiatobel pr. Davos (v. Tavel), Bergün, Costainas (Muret), Ofenpass (Brunies), Piz Alv (Schröter), Piz Padella (Kraetli), Val Fraele (Heer), in jugo Splügen versus Italiam (Christener), Campo (R. Keller), Mte Salvatore (Muret); Italiae: supra Bormio (Brügger); Tiroliae: in monte Braulio (Brügg.), Nauders (Tappeiner), in alpinis Hochalpen pr. Meran (Bamberger), in valle Groedenertal (Huter), pr. Schluderbach, Landro (Hegelmaier), Val Zelline (Huter), Lienz (Gander); Carinthiae: Villach (Preissmann), Seisaraalp (Jabornegg); Stiriae superioris: in alp. petrosis „in der Fölz“ pr. Aflenz (Zahlbruckner, de Benz). — Flor. Jul.-Aug.

In Helvetia orientali saepissime in consortio *H. glauci* All. ssp. *Willdenowii* Monn.

Tab. 25, Fig. A. 1—4. *H. Ganderi* Hausmann ssp. *Mureti* Gremli (e loco classico: Lenzer Heide, leg. ipse). 1. Squama. 2. Pedunculus sub involucrio. 3. Dentes ligularum. 4. Achaenium.

Subspecies **Ganderi** Hausm., apud Huter l. supra cit.; *H. canescens* v. *Ganderi* Huter, Österr. bot. Zeitschr. l. c. et in sched. — Caulis ad 35 cm altus gracilis v. tenuis erectus subflexuosus, epilosus, eglandulosus, supra medium ± floccosus, furcato-ramosus, phyllopodus.

Folia rosularia numerosa, exteriora minora obovata v. elliptica, obtusiuscula, sequentia lanceolata v. anguste lanceolata, omnia abrupte v. sensim in petiolum saepe sat longum attenuata acuta, acute serrato-dentata, multidentata, glauca, supra epilosa, in margine et in nervo dorsali disperse pilosa, in petiolo pilis brevibus numerosioribus obsita, interdum fere omnino glabra; caulina 1—2 (—3) lineari-lanceolata v. linearia, sparsim denticulata v. integerrima, saepe elongata acuminata. Inflorescentia \pm indeterminata (1—) 2—9 cephalis, acladium 2—8 (—12) cm, rami primarii 1—4 suboblique erecti (inferiores saepe non evoluti), simpliciter ramosi 1—3 cephalis; involucrum 10 mm longum gracile ovatum, primo \pm turbinatum; squamae angustae acutiusculae, dilute marginatae, multiflocae v. canotomentosae, pilis sparsis brevibus obscuris obsitae; pedunculi leviter cani, subepilosi eglandulosi, rarius glandulis solitariis praediti; bracteae 3—5 rarius plures, superiores sub involucrio confertae. Flores saturate lutei, ligulae apice glabrae, stylus demum obscurus, achaenia atra.

Crescit locis sabulosis calcareis Tiroliae: Niederndorf, Landro, Bad Prags (Gander), inter Brücke et Plätzwiesen (Murr), Schludersbach, Ampezzo, Fischleintal pr. Sexten (Huter), Kerschbaumer Alpe (Pichler); Carinthiae: Wildensentälpe in valle Gailtal, Römertal pr. Tarvis (de Benz); Stiriae: Foelzalpe in monte Hochschwab, Okreßhütte in alpib. Steiner-alpen (de Benz); Austriae inferioris: ad flumen Ybbs pr. Rosenau (de Handel-Mazetti); Helvetiae engadinensis: Samaden, Val Chamuera (Kraetli). — Flor. Jul.-Aug.

Exsiccata: Fl. exsicc. Austro-Hung. no. 3352 pp. (sub nomine *H. canescens*, e valle Sextental, leg. Ausserdorfer; partim *H. glaucum* All. ssp. *Isaricum* N. P.); Fl. exs. Austro-Hung. no. 3352 II pp., sub nomine *H. canescens* v. *Ganderi*, ex alpe Kerschbaumeralpe, leg. Pichler; partim *H. glaucum* ssp. *Isaricum* N. P. f. *floccosius* N. P. — (*H. canescens* v. *Ganderi* Fl. exs. Austro-Hung. no. 3352 I, in declivitatibus rupestribus pr. W.-Matrei, leg. Ausserdorfer, est *H. glaucum* All. ssp. *tephrolepium* N. P. α) *genuum* 5) *latiusculum* N. P. II p. 33). — Fries, Hierac. Europ. no. 42.

Tab. 25, Fig. B. 5—6. *H. Ganderi* Hausm. ssp. *Ganderi* Hausm. (pr. Landro, leg. Murr). 5. Squama. 6. Pedunculus sub involucrio.

23. Hieracium subcanescens Murr, Allgem. bot. Zeitschr. (1899) p. 61; Österr. bot. Zeitschr. (1902) p. 353; *H. inclinatum* A.-T. in sched. herb. Murr, apud Murr, in Deut. bot. Monatsschr. (1897) p. 224; nec Hier. Alp. franç. (1886) p. 21; *H. Mureti* ssp. *subcanescens* Zahn, in Koch Syn. (ed. Hall.-Wohlf., 1901) p. 1788 = *incisum* < *glaucum*. — Caulis 20—30 cm altus subtenuis, rhizoma interdum pleioscapum. Folia rosularia satis numerosa breviter (rarius longius) petiolata, exteriora minora ovata, obovata v. elliptica, sequentia ovato-lanceolata, oblongo-lanceolata v. lanceolata, breviter vel longe acuminata acutiuscula v. acuta, basi truncata v. rotundata v. \pm sensim in petiolum attenuata, denticulata v. infra medium v. basi tantum dentibus patentibus \pm grosse dentata, omnia saturate viridia glaucescentia rigidiuscula, supra epilosa, subtus interdum \pm disperse floccosa; caulina 0—2 cito decrescentia remota, inferius lanceolatum breviter petiolatum subdentatum v. ut summum anguste lanceolatum v. lineare, \pm integerrimum. Inflorescentia furcata, \pm indeterminata, (1—) 2- oligocephala, acladium 25—50 mm (— $\frac{1}{3}$ totius caulis), rami primarii 1—2 remoti subarcuato-erecti, monocephali v. simpliciter ramosi 2 (—3) cephalis; involucrum 10—12 mm longum ovatum; squamae sublatiusculae obtusiusculae obscurae v. subnigrae, parum (praecipue interiores) dilute marginatae, modice floccosae v. multiflocae, disperse v. submediocriter breviterque pilosae, pilis obscuris v. basi atris apicem versus dilutioribus, glandulis nullis v. sparsis obsitae; bracteae 3—5;

pedunculi superne multiflocci, inferne subeffloccosi v. nudi, parcepilosi, eglandulosi v. subglandulosi. Flores saturate lutei, ligulae apice glabrae, stylus obscurus, achenia atra.

Subspecies **pseudisaricum** Murr l. c.; *H. Mureti* 3) *subcanescens* α) *pseudisaricum* Zahn, in Koch Synops. l. c. p. 1789; *H. rupicolum* Evers, in Beiträge z. Flora des Trentino (1896) p. 33. — Habitus ± ut *H. glauci* All. Caulis fere epilosus v. tantum basin versus parcepilosus. Folia in nervo dorsali pilis raris adspersa, in margine epilosa v. basin versus pilis raris subciliata, in petiolo subpilosa, subtus ± floccosa; caulina subtus floccosa, in nervo dorsali tantum pilis solitariis obsita. Squamae sparsim et obscure pilosae subdense floccosae eglandulosae; pedunculi superne parcepilosi eglandulosi (rarissime squamae et pedunculi glandulis solitariis praedita).

Crescit in alpinis calcareis Tiroliae: pr. Innsbruck (Höttinger Alpe, Issanger in monte Salzberg); in monte Ortler ad pedem glaciei Madatschferner (Evers); Bavariae: in glareosis Dammkar p. Mittenwald, Wettersteinalpe, detex. et leg. J. Murr; Carinthiae: Wildensenter-alpe, pr. Thörleralpe (de Benz); Stiriae: Okreßhütte in alpinis Steiner Alpen (idem). — Flor. Jul.-Aug.

Tab. 26, Fig. A. 1—4. *H. subcanescens* Murr ssp. *pseudisaricum* Murr (e monte Höttingeralpe, leg. J. Murr). 1. Squama. 2. Pedunculus sub involucro. 3. Margo ligularum. 4. Folium caulinum: portio e parte aversa.

Subspecies **incisiforme** Murr l. c.; *H. Mureti* 3) *subcanescens* β) *incisiforme* Zahn l. c. p. 1789. — Caulis breviter parcepilosus, saepe minus elatus submonocephalus. Folia margine subtusque et praecipue in petiolo pilis brevibus subnumeris obsita, magis dentata quam in priore subspecie, subtus effloccosa. Squamae modice et breviter pilosae, sparsim glandulosae subfloccosae, subobtusae; pedunculi subpilosi subglandulosi, inferne eglandulosi. Habitus ut in *H. senili* A. Kerner, sed differt squamis subobtusis etc.

Crescit in glareosis calcareis alpium Tiroliae: Haller Anger pr. Innsbruck (detex. et leg. J. Murr); Helvetiae Engadinensis: Val Chamuera pr. Ponte (leg. Leresche). — Flor. Jul.-Aug.

Tab. 26, Fig. B. 5—7. *H. subcanescens* Murr ssp. *incisiforme* Murr (e loco classico Haller Anger, leg. J. Murr).

24. Hieracium bifidum Kit., in Hornemann, Hort. Hafniensis II p. 761 et Add. p. 115 (1815); Froel., in DC., Prodr. VII (1838) p. 214; Fries, Epicris (1862) p. 93; Zahn, in Koch Syn. (ed. Hall.-Wohlf.) p. 1791 (1901), non Koch, Synops. ed. 2 (1844) p. 523; huc refero *H. subcaesium* Fries, Epicrisis p. 92, G. de Beck, Fl. v. Niederösterreich. (1893) p. 1298, Zahn l. c. p. 1792, et etiam *H. silvaticum* H. Dahlstedt, Bidrag till Sydöstra Sveriges Hierac.-Flora (in Kongl. Svensk. Vet.-Akad. Handl., 1893, t. 25 no. 3 p. 39; *H. caesium* var. *H. bifidum* Fr. Symb. (1848) p. 113; *H. angulare* Fr., Vet. Ac. Förh. (1856) p. 148; *H. Retzii* Griseb., Comm. (1852) p. 58; Reichb., Composit. tab. 190 f. 1 (1860), non Fr.; *H. incisum* Koch, Syn. ed. 2 (1844) p. 523 pp.; *H. murorum* v. *incisum* Fr., Symb. p. 110; *H. murorum* v. *subcaesium* Arv.-T., Hierac. Alp. franç. (1888) p. 83; *H. murorum* v. *alpestre* Christener, Hierac. d. Schweiz (1863) p. 15; = **silvaticum** > **glaucum**.

Subspecies **pseudodollineri** Murr et Zahn, in Koch, Synops. (ed. Hall.-Wohlf., 1901) p. 1819. — Caulis ad 50 cm altus crassiusculus, striatus, basin versus parcepilosus, superne multifloccus, squarroso-ramosus. Folia rosularia compluria (—10), ± longe petiolata, exteriora obovata v. ovato-lanceolata v. lanceolata rhombiformia, obtusa v. acutiuscula, basi rotundata

v. saepius in petiolum angustata cuneata, rarius truncata, interiora elliptico-lanceolata v. oblongo lanceolata v. lanceolata, in petiolum sensim attenuata, breviter acuta v. \pm longe acuminata, serrato- (saepe grosse-) dentata, basin versus profundius v. subinciso-dentata v. (interiora) sublaciniata dentibus numerosis patentibus, utrinque breviter subpilosa, supra saepius fere epilosa v. sparsim pilosa, subtus molliter subpilosa, in margine et subtus in nervo mediano densius pilosa, in petiolo pilis suberispis albidis subvillosa, omnia obscure glauco-viridia, subtus sordide subglaucescentia, firma, saepius basin versus cum petiolis et caulibus basi subcolorata; caulinum petiolatum lanceolatum paucidentatum, saepe grosse pinnato-dentatum (interdum 2 evoluta, summum lineare v. subulatum), subtus saepissime subfloccosum v. etiam radicalia in nervo mediano parciflocca. Inflorescentia laxa paniculata v. altefurcata, \pm indeterminata, 3—7 (—10) cephalae, parum suprafastigiata; accladium 1—5 (—8) cm longum, rami primarii (2—) 3—4 (—5) remoti v. valde remoti, subarcuato-erecti elongati, simpliciter ramosi 1—3 cephalae, graciles (interdum unus alterque caulis secundarius evolutus); involucrum cylindrico-ovatum demum ovatum, 11—12 mm longum; squamae subangustae obtusiusculae v. acutiusculae, interiores saepe acutae, modice pilosae subglandulosae, dense floccosae subcinereae; bracteae 2—4 subulatae; pedunculi canotomentosi, superne parcepilosi, saepissime eglandulosi. Flores saturate lutei, ligulae apice glabrae, stylus obscurus, achenia atra. — Inter *H. Dollineri* Sch.-Bip. et *H. bifidum* typicum quasi intermedium.

Crescit locis glareosis calcareis Tiroliae australis in consortio *H. Dollineri* ssp. *Tridentini* Evers: multis locis circa Trient (Val de Lievre s. n. *H. bifidum* et incisum, Murr), Lavini di Marco pr. Mori (Murr). Flor. Jun.-Jul.

Variat: α) **eripodoides** Zahn, in Koch Syn. l. c. p. 1819. Folia latiora, saepe subcoriacea, involucrum crassiusculum plus 10 mm longum, dense floccosum subcinereum. Huc pertinet planta austro-tirolensis et icon. nostr.

β) **pseudodollineri** M. et Z. l. c. Folia laeteviridia subglaucescentia basi latiora subtruncata saepe subcordata, tenuiora, involucrum minus quam in α , squamae angustiores acutiores canovirides. — Austria sup. et inf.: Windischgarsten (Dürrenberger), Kreuzberg pr. Weyer, Kastenreith, Salzatal (idem); Bavaria: München; Idria in Carnia (Dolliner).

Exsiccata: Dörfler, Herb. norm. no. 4352 (var. α).

Tab. 27. 1—7. *H. bifidum* Kit. ssp. *pseudodollineri* M. et Z. α) *eripodoides* Zahn (ad torrentem Fersina pr. Trient, leg. J. Murr). 1, 2. Squamae. 3. Pedunculus sub involucri. 4. Dentes ligularum. 5. Pilus stellatus. 6. Achaenium. 7. Folium caulinum: portio e parte aversa.

Subspecies **chartaceum** Čelakovsky, in Sitz.-Berichte böhm. Gesellsch. d. Wissenschaft. (1887) p. 630; Oborny, Fl. v. Mähren I (1885) p. 593; Zahn, in Koch Syn. (1901) p. 1791. — Caulis ad 50 cm altus crassiusculus, basin versus parcepilosus, superne multifloccus, squarrosoramosus. Folia rosularia mediocriter v. longe petiolata, late ovata, subcordata v. truncata, obtusa cum mucrone v. intima \pm acuminata acutiuscula v. acuta, basi truncata v. pleraque in petiolum \pm decurrentia, leviter et remote subsinuato-dentata (dentibus acutis v. mucronatis), basin versus dentibus elongatis patentibus acutis praedita v. saepe inciso-dentata dentibus in petiolum descendentibus, supra epilosa, margine subtusque disperse breviter pilosa, in nervo dorsali petioloque pilis mollibus mediocriter pilosa v. subvillosa, omnia laete viridia subglaucescentia subtus sordide viridia, rigidiuscula; caulina 0—1 (—2) petiolata lanceolata

v. linearia. Inflorescentia altefurcata (2—) 3—5 (—7) cephalis; acliadium (1—) 2—5 (—8) cm, rami primarii 1—2 (—3) remoti elongati simpliciter v. repetito-ramosi 1—3 cephalis, ordines axium 2—4; involucrium c. 12 mm longum ovatum basi rotundatum crassiusculum; squamae subangustae, sat longe acuminatae acutiusculae v. intimae acutae, breviter subpilosae, subdense floccosae et modice glandulosae; pedunculi multiflocci v. subcanotomentosi sparsim pilosi, modice et minute glandulosi. Flores saturate lutei, ligulae apice glabrae, stylus luteus, demum interdum fuscescens, achaenia atra.

Crescit in declivibus vallis Granitzatal et Thayatal ad oppidum Znaim, Moraviae (A. Oborny). — Flor. Jun.-Jul.

Tab. 28. *H. bifidum* Kit. ssp. *chartaceum* Čelak. (e valle Granitzatal, leg. Oborny). 1. Squama. 2. Pedunculus sub involucrio. 3. Dentes ligularum. 4. Achaenium. 5. Pilus stellatus. 6.

25. Hieracium Wiesbaurianum Uechtritz, in Baenitz, Herb. europ. (1879) prospectus p. 5 = **bifidum-Schmidtii**.

Subspecies **Wiesbaurianum** Uechtritz l. c. p. 5 et exsicc. no. 3679; Deutsch. bot. Monatsschr. (1884) p. 102; Zahn, in Koch Syn. (1901) p. 1801; *H. bifidum* var. *cinerascens* Arv.-Touv., Hierac. Alp. franç. (1888) p. 80; *H. incisum-Schmidtii* Zahn l. c. — Caulis 20—50 cm altus gracilis v. crassiusculus subtiliter striatus, sparsim breviter pilosus et parce floccosus, subflexuosus. Folia rosularia exteriora elliptica obtusiuscula ± longe petiolata, sequentia ± oblonga basi truncata v. breviter angustata acutiuscula v. acuta, a medio ad basin ± profunde et grosse sinuato-dentata pinnatifidaque dentibus ± obtusis mucronatis, interiora lanceolata utrimque attenuata acuta parcius dentata; omnia rigidiuscula supra subglaucescentia sordide viridia subdense breviter setaceo- et curvato-pilosa, subtus dilute viridia glaucescentia subdense et submolliter pilosa (petiolus breviter subvillosus) et ± floccosa v. in nervo dorsali tantum subfloccosa; caulinum 0—1 radicalibus simile v. anguste lanceolatum acutum. Inflorescentia altefurcata v. laxè paniculata (1—) 3—10 (—17) cephalis paulum suprafastigiata; acliadium 2—5 (—8) cm longum, rami primarii (0—) 2—4 (—6) remoti, ordines axium 2—3 (—4). Involucrium 10—12 mm longum ovatum; squamae angustae acuminatae acutae subcanotomentosae, glandulis parvis sparsis et pilis apice dilutis basi obscuris breviter subpilosae; pedunculi canotomentosi subpilosi, sparsim tenuiterque glandulosi; bracteae 2—4 parvae. Flores lutei, ligulae apice subciliatae, stylus luteus, achaenia subatra.

Crescit in montosis calcareis, pp. in pinetis Austriae inferioris pr. Vindobonam, ut in monte Calvarienberg pr. Gumpoldskirchen (Wiesbaur), p. Moedling (Sonklar) et Kalksburg (Wiesbaur); Moravia: Eisleithen pr. Fraun (Pospichal); Hungariae: ad montem Badacsony versus Tomay non procul ab Lacu Balatonensi (v. Borbás)!

Vatriat: 1) *angustifolium* Wiesbaur, in Deutsch. bot. Monatsschr. (1884) p. 103. Folia angustiora in petiolum attenuata. — Gumpoldskirchen.

2) *subditum* G. de Beck, Fl. v. Niederösterreich. (1893) p. 1292. Folia supra multo minus pilosa glabrescentia, pedunculi subdense glandulosi. — Gumpoldskirchen; Gallia: Delphinatus: Sassenage (Neyra).

Exsiccata: Baenitz, Herb. Europ. no. 3679 (planta Wiesbauriana!); Société franco-helvétique, no. 758 (sub nomine *H. murorum* v. pilosissimum, pr. Sassenage leg. Neyra).

Tab. 29, Fig. A. 1—3. *H. Wiesbaurianum* Uechtr. ssp. *Wiesbaurianum* Uechtr. (e loco class. Gumpoldskirchen, leg. Wiesbaur). 1. Squama. 2. Pedunculus sub involucrio. 3. Achaenium.

Subspecies **diversifolium** Čelakovsky, in Resultate d. bot. Durchforsch. Böhm. (1886) p. 190; Zahn, in Koch Syn. (ed Hall.-Wohlf.) p. 1777 (1901) sub *H. Schmidtii* grex b) *Rupicolum*. — Planta inter *H. bifidum* Kit. et *H. Schmidtii* Tausch quasi intermedia. Caulis ad 40 cm altus gracilis v. crassiusculus saepe subflexuosus striatus, phyllopodus, breviter subpilosus v. rariopilus, superne multifloccus et parce glandulosus. Folia rosularia exteriora ovata v. elliptica obtusa minora, basi truncata v. saepe subcordata, sed semper in petiolum ± breviter decurrentia, sequentia elliptica v. oblongo-lanceolata obtusiuscula mucronata v. acutiuscula, basi truncata v. rotundata, lamina in petiolum contracta subdecurrente, interiora in petiolum brevius longiusve attenuata longe acuminata acuta; caulinum breviter petiolatum lanceolatum longe acuminatum acutum; omnia rigidiuscula glaucescentia subtus pallide viridia glaucescentia, denticulata v. basin versus magis dentata, supra glabra marginem versus et in margine ipso setaceo-pilosa ciliata, subtus in nervo mediano petioloque modice pilosa et saepissime (praecipue interiora) parce floccosa. Inflorescentia laxa paniculata v. altefurcata subindeterminata 3—10 cephala; acladium 2—5 cm longum; rami primarii 2—4 remoti oblique erecti simpliciter v. repetito-furcati. Involucrum 11—13 mm longum ovato-cylindricum; squamae angustae longe acuminatae acutissimae flores novellos duplo minores quasi tubo aperto coronant, obscurae subdilate marginatae, breviter subpilosae subdense floccosae et modice glandulosae, pedunculi subcanotomentosi, subglandulosi, breviter subpilosi, pili apice diluti basi obscuri; bractae 2—4 parvae. Flores lutei, ligulae apice rarius subciliatae, stylus luteus, achaenia atra.

Crescit locis silicaceis vulcanicis Bohemiae, ut in monte Ziegenberg pr. Aussig (l. class.), pr. Vorlik ad fl. Moldau (leg. Domin).

Tab. 29, Fig. B. *H. Wiesbaurianum* Uechtr. ssp. *diversifolium* Čelak. (e loc. class., leg. Wiesbaur).

26. Hieracium cinerascens Jordan, Catal. gr. jard. Grenoble (1849) p. 17; Gren. et Godron, Fl. d. France II (1850) p. 370; Boreau, Fl. centr. France ed. 3 (1852) p. 416; Fries, Epicris. (1862) p. 85; Arv.-Touv., Hierac. Alp. franç. (1888) p. 80; *H. praecox* ssp. *cinerascens* Sudre, Hierac. centr. France (1902) p. 77; *H. graniticum* Zahn, Koch Syn. (1901) p. 1812; = **silvaticum-Schmidtii** Zahn l. c.

Subspecies **graniticum** Schultz-Bip., Cichoriaceotheca no. 23 cum descript. (1862) et in Bonplandia (1862) p. 331; Oborny, Fl. d. Znaimer Kreises (1879) p. 74; Fl. v. Mähren (1885) p. 592; Zahn, in Koch Syn. (1901) p. 1812; *H. murorum* Rehmann pp., in Österr. bot. Zeitschr. (1873) p. 214; Arv.-Touv., in sched. herb. univ. Lausanne; *H. cyaneum* v. *graniticum* Arv.-Touv. et Gaut., Hieracieth. Gall. no. 280; *H. Schmidtii* I lasiophyllum F. Schultz, Arch. d. Flore (1854—1869) p. 20; *H. lasiophyllum* Neilr., Krit. Zus. Hierac. (1871) p. 471 pp. — Caulis ad 45 cm altus gracilis v. crassiusculus subascendens subflexuosus substriatus, inferne saepe subviolaceus, sparsim v. modice pilosus (2—4 mm), superne minus et brevius pilosus, subfloccosus et subglandulosus, modice ramosus. Folia rosularia compluria (—10) longe petiolata, exteriora minora ovata v. elliptica rotundata obtusa saepe mucronata, sequentia elliptica v. oblongo-lanceolata, saepissime abrupte in petiolum angustata v. truncata v. subcordata, acuminata acuta, interiora ± lanceolata utrimque attenuata; omnia subdilate viridia subglaucescentia, dentata vel basin versus utrinquesinuato-v. inciso-serrato-dentata, dentibus prope basin ± elongatis (—3 cm) patentibus interdum retroversis saepe in petiolum descendentibus praedita; caulinum 0—1 ± longe petiolatum oblongo-lanceo-

latum v. lanceolatum serrato-dentatum v. \pm elongatum lineare; omnia supra pilis subsetaceis subdense v. disperse v. tantum marginem versus obsita, in margine ipso modice ciliata, subtus pilis mollioribus subpilosa in nervo dorsali petioloque fere subvillosa (-5 mm). Inflorescentia paniculata v. laxe paniculata (2—) 3—7 (-15) cephalae; acladium 10—25 (-30) mm longum, rami primarii (2—) 3—5 subremoti subarcuato-ascendentes, infimus interdum valde remotus, ordines axium 3—4. Involucrum 10—12 mm longum, ovato-cylindricum v. ovatum; squamae angustae longe acuminatae acutiusculae, intimae acutae, subnigrae margine olivaceo-virides, sparsim v. subdense breviter pilosae, modice v. subdense tenuiterque glandulosae, subefflorescentes in margine subfloccosae; pedunculi dense floccosi v. subcanotomentosi \pm glandulosi subepilosi. Flores lutei, ligulae apice breviter subciliatae v. fere glabrae, stylus luteus, interdum postea subfuscescens, achaenia nigro-brunea v. atra. — *Transitus Schmidtii* > *silvaticum*.

Crescit locis petrosis silicaceis Bohemiae, Moraviae. — Flor. Jun.-Jul.

Variat: $\alphagenuinum Uechtr., in Oborny, Fl. Znaimer Kreises (1879) p. 74 et in Oborny, Fl. v. Mähren (1885) p. 592. Folia exteriora ovata obtusa, reliqua ovato-oblonga v. oblongo-lanceolata, basi subcordata v. truncata, longe et \pm grosse dentata, supra subpilosa v. fere glabra. — Moravia: Thayatal pr. Znaim (Oborny), Eisleithen pr. Fraun (Pospichal), Namiest (Römer), Brünn (Niessl); Bohemia: in rupibus vallis Moldautal (Domin), in valle St. Procopital pr. Pragm (Čelak.), in rupibus pr. pagum Velká Ves, ad Vodotka (Polák).$

β) **medium** Uechtr. l. c. Folia ovata v. ovato-lanceolata basi truncata v. breviter cuneata, exteriora obtusiuscula reliqua acuta, supra tenuiter subsetacea. — Moravia: Znaim (Oborny).

γ) **quarciticum** Freyn in sched., Zahn l. c. p. 1812. Folia \pm glauca cordato-ovata v. ovalia supra fere epilosa, denticulata v. basin versus dentata; acladium ad 35 cm longum; inflorescentia etc. *H. Schmidtii*. — Bohemia: in valle Šarka p. Pragm (Freyn), in monte Burberg p. Kaden (Čelak. fil.).

δ) **multisetum** Uechtr. l. c. Folia ovata v. oblongo-lanceolata basi cordata v. contracta, supra subdense setaceo-pilosa; acladium ad 50 mm longum; *H. Schmidtii* proximum. — Moravia: Thayatal p. Znaim (Oborny).

Exsiccata: Schultz-Bip., Cichoriaceotheca no. 23 (Znaim, leg. Niessl); F. Schultz et Winter, Herb. norm. no. 92 (Namiest, leg. Römer); Fl. exs. Austro-Hung. no. 3347 (var. *genuinum* Uechtr., Znaim, leg. Oborny), no. 3348 (var. *medium* Uechtr., Znaim, idem), no. 3349 (var. *multisetum* Uechtr., Znaim, idem).

Tab. 30. *H. cinerascens* Jord. ssp. *graniticum* Sch.-Bip. (e valle fl. Thaya p. Znaim, leg. A. Oborny).

27. Hieracium dentatum Hoppe, in Sturm. Deutschl. Flora, Heft 39, tab. 16 (1815); Koch, Synops. ed. 2 (1844) p. 518; Griseb., Comm. (1852) p. 67; Fries, Epicr. (1862) p. 62; N. P., Hier. Mitteleurop. II. (1886) p. 172; Zahn l. c. p. 1794; Neilreich, Krit. Zusammenstellung Hierac., in Sitzb. k. Akad. Wissensch., t. LXIII (1871) p. 36; *H. pilosum* Froel., in DC., Prodr. VII (1838) p. 229; Sauter, in Flora (1844) p. 816; = **silvaticum-villosum** N. P. l. c.

Grex I. Villosiforme N. P. II p. 175.

Subspecies **villosiforme** N. P.; *H. villosum* c. *grossidens* Fries, Epicr. (1862) p. 64. — Caulis ad 50 cm altus crassus subflexuosus eximie striatus erectus phyllopodus, furcato-

ramosus, 3—7 cephalus, pilis numerosis dilutis 3—5 mm longis vestitus, eglandulosus, superne ± albotomentosus, inferne usque infra medium deminute floccosus. Folia utrinque pilosa (2,5—3,5 mm), rosularia pauca v. compluria petiolata, oblonga, in petiolum longe attenuata, obtusa v. acuta mucronata, irregulariter grosse serratodentata, dentibus antrorsum arcuatis breviter et argute acuminatis praedita; caulina 6—10, sat magna, sensim decrescentia in bracteas deminuta, infima oblonga basin versus attenuata subpetiolata, sequentia attenuata sessilia, summa fere elliptica v. basi ovata acuta; omnia glaucescentia mollia radicalibus similia saepissime in margine subundulata. Inflorescentia furcata indeterminata aeladium 1,5—7 cm longum; rami primarii 2—6 crassiusculi remoti oblique erecti monocephali. Involucrum 14—15 mm longum globosum demum ventricosum; squamae latae lanceolatae, ± acuminatae acutissimae obscurae, exteriores laxae; bracteae c. 5 foliaceae. Pili in involucrio numerosi diluti, 3 mm longi, glandulae apicem squamarum versus modice numerosae minutissimae, flocci involucri basin versus ± numerosi apicem versus subnulli. Flores dilute flavi, dentes ligularum saepe subciliati, stylus luteus fuscescens, achaenia rubrobrunea, 4—4,5 mm longa.

Crescit in alpinis calcareis inter 1900—2100 m; Helvetia: Binntal (Besse); Tirolia: Kaserenwiesen pr. Neuprags (Naegeli), Vennertal in jugo Brenner (idem); Carinthia: in pratis Albitzenwiesen iuxta glaciem Pasterze (idem). — Flor. Jul.-Aug.

Tab. 31, Fig. A. 1—2. *H. dentatum* Hoppe ssp. *villosiforme* N. P. (Binntal, leg. ipse). 1. Squama. 2. Pedunculus sub involucrio.

Subspecies **aechmetes** N. P., Hierac. Mitteleurop. II (1886) p. 176. — Caulis ad 30 cm altus gracilis erectus subflexuosus striatus phyllopodus dense et longe (5—8 mm) pilosus, superne tomentosus, inferne usque ad basin sat multifloccosus. Folia rosularia 2—5 (interdum compluria) non petiolata, rarius subpetiolata, oblonga ± obtusa v. acutiuscula mucronata, denticulata v. sparsim grosse dentata; caulina 3—4 sensim decrescentia basi rotundata sessilia, summa late ovata, ± acuta subamplexicaulia; omnia subglaucescentia rigidiuscula subdense pilosa (2—4 mm), summa subtus in nervo mediano interdum parce floccosa. Inflorescentia atrefurcata indeterminata 1—3 cephalata; aeladium 2—5 (—11) cm longum; rami primarii 0—2 valde remoti graciles monocephali. Involucrum 14—16 mm longum ovatum demum globosum; squamae latiusculae longe acuminatae acutissimae nigrae, extimae laxae, dense et dilute pilosae (2—3,5 mm), apicem versus minutissime glandulosae, effloccosae; bracteae 4—5, infimae lanceolatae foliaceae, summae lineares. Flores lutei, ligulae apice subglabrae, stylus luteus, achaenia dilute brunea, 3—4 mm longa.

Crescit in alpinis calcareis inter 1800—1900 m; Helvetia: Berner Alpen (N. P.), Parpan versus Weisshorn (Peter), Sertigtal p. Davos, leg. ipse; Tirolia: Wolfenalp in jugo Brenner (Naegeli), Fleimstal (N. P.); Carinthia: Pasterze (Naegeli). — Plantae minus longe pilosae: Pasterze, Neuprags (Naegeli), Albula, Curfirsten supra Quinten, Rochers de Naye supra Montreux (idem). — Flor. Jul.-Aug.

Tab. 31, Fig. B. 3—4. *H. dentatum* Hoppe ssp. *aechmetes* N. P. (Sertigtal). 3. Squama. 4. Pedunculus sub involucrio.

Crex II. Subvillosum N. P., Hierac. Mitteleurop. II p. 179 (1886).

Subspecies **subvillosum** N. P. l. c. p. 181. — Caulis ad 35 (—48) cm altus subascendens gracilis ± flexuosus striatus, phyllopodus, sat dense et dilute pilosus (3—4 mm), eglandulosus, superne canotomentosus, inferne usque ad basin deminute floccosus. Folia

rosularia 2—5 breviter longiusve petiolata, saepe tantum attenuata et subundulata, exteriora oblonga obtusa minora, interiora \pm lanceolata acutiora v. acuta maiora, denticulata v. fere integerrima v. sparsim longius dentata; caulina 3—4 sensim decrescentia \pm lanceolata v. oblonga sessilia basi subattenuata v. rotundata; omnia dilute viridia subglaucescentia utrinque subdense molliterque pilosa (3—4 mm) effloccosa. Inflorescentia altefurcata indeterminata 1—3 cephalis; acladium 3—7 cm longum; rami primarii (0—) 1—2 remoti graciles monocephali. Involucrum 13—15 mm longum globosum; squamae subangustae lineares, longe acuminatae acutissimae, nigrae, extimae laxae, dense et dilute pilosae (2—3 mm), apicem versus disperse glandulosae, effloccosae; bracteae 2—4 lineares. Flores lutei, ligulae apice glabrae v. breviter sparsimque ciliatae, stylus luteus v. obscurus, achaenia nigrobrunea v. dilute brunea, 3,6—4 mm longa.

Crescit in calcareis alpinis inter 1400—2400 m: Jura, Helvetia, Vorarlbergia, Tirolia, Bavaria australis, Carinthia. — Flor. Jul.-Aug.

Planta maxime mutabilis. Variat:

α) **genuinum** N. P. l. c. p. 182.

1) *normale* N. P. — Helvetia: Ad pedem m. Wetterhorn (Christener), in Ormonts, Catogne, Les Verreaux supra Vevey (Naegeli), Jura: Weissenstein, Reculet (Muret), Splügen, Albula, Val Avers, Val Tuors, Val Fex, St. Moritz, Val Lischana pr. Schuls, Lukmanier (Naegeli etc.).

2) *undulatum* M. Z. Planta valida, foliis subintegris distincte undulatis laete viridibus; e commixtione formae cuiusdam elongatiformis *H. villosi* ortum ideoque *H. Trefferiano* subsimile. — In monte Platzerberg pr. Gossensass, Tiroliae (leg. J. Murr).

3) *calvius* N. P. l. c. Folia distincte petiolata, exteriora \pm lanceolata-spathulata obtusa, caulina 2—3 attenuata sessilia, omnia fere integerrima, supra pilis modice numerosis 2—3 mm longis subpilosa. — Tirolia: Neuprags (Naegeli).

β) **vulgatiforme** N. P. l. c. Folia rosularia longe petiolata, caulinum infimum basin versus longe attenuatum reliqua attenuata v. \pm rotundata sessilia, omnia \pm serratodentata; involucrum 10—15 mm longum, squamae angustissimae, achaenia 3 mm longa, pili ubique 1,5—3 mm l. — Habitus fere *H. vulgati*, rami primarii saepe subconferti numerosiores quam in var. α . — Helvetia austro-occidentalis: Ormonts, in montibus Arpille et Palette (Naegeli).

Exsiccata: A. Peter, *Hieracia Naegeliana* no. 373 (var. α 1), no. 373* (var. α 2), no. 373** (var. β).

Tab. 32, Fig. A 1—2. *H. dentatum* Hoppe ssp. *subvillosum* N. P. α) **genuinum** N. P. 2) *undulatum* M. Z. (e monte Platzerberg juxta jugum Brenner, leg. J. Murr). 1. Squama. 2. Pedunculus sub involucrio.

Subspecies **subbruncinatum** N. P., *Hierac. Mitteleurop.* II (1886) p. 180. — Caulis ad 45 cm altus crassus v. gracilis, subascendens subflexuosus, subtiliter striatus, phyllopodus, superne sat dense diluteque pilosus (3—5 mm) et albido- v. canotomentosus, inferne densius pilosus et usque ad basin deminute floccosus, omnino eglandulosus. Folia rosularia compluria subpetiolata oblonga v. lanceolata, \pm acuta v. acutiuscula mucronata, \pm grosse subbruncinato-dentata; caulina 4—5 sensim decrescentia, infimum basi attenuatum reliqua basi lata v. \pm subamplexicaulia; omnia glaucescentia rigidiuscula v. mollia, utrinque dense et molliter

pilosa (3—5 mm) effloccosa. Inflorescentia \pm furcata indeterminata 2—6 cephalae; acladium 5—13 cm longum, rami primarii 1—4 remoti crassiusculi v. graciles, 1—2 cephalae. Involucrum 14—16 mm longum globosum; squamae sublatiusculae lineares, longe acuminatae acutissimae, obscurae v. fere nigrae, dense et dilute pilosae (3—4 mm), superne subeffloccosae basin versus modice floccosae, disperse et minutissime glandulosae; bractae 4—5, infimae foliaceae v. lineares, summae squamis similes. Flores lutei, ligulae apice breviter ciliatae, stylus obscurus, achaenia brunea, 4 mm longa.

Crescit in alpinis calcareis inter 1550—2500 m. Jura: Creux du Van (Bulnheim); Helvetia: Ormonts (Naegeli), Bernhardin, Val Avers, Val Fex, St. Moritz, Val Chamuera, Piz Padella, Splügen, Parpan (N. P.), Mte. Generoso (Muret); Tirolia: in jugo Brenner, pr. Neuprags et versus Schludersbach, Fernpass, Nockspitz pr. Innsbruck (N. P.), Wormserjoch (Preissmann); Algovia: Rauhorn, Rappenkopf; in alpinis Bavariae: Schliersee, Benediktenwand (N. P.); Litorale Austriacum: Mte. Matajur (Peter). — Flor. Jul.-Aug.

Exsiccata: Dörfler, Herb. norm. no. 3138.

Tab. 32, Fig. B. 3—4. *H. dentatum* Hoppe ssp. *subruncinatum* N. P. (e monte Hoettingeralpe pr. Innsbruck, leg. J. Murr). 3. Squama. 4. Marginis folii portio.

Subspecies **pseudoporrectum** Christener, Hierac. d. Schweiz (1863) p. 18 (sine descr.) et in sched.; N. P. II 179. — Caulis ad 40 cm altus crassiusculus v. gracilis erectus saepissime parum flexuosus subtiliter substriatus phyllopodus. Folia rosularia complura, \pm breviter (interdum haud distincte) petiolata, oblongo-lanceolata v. lanceolata grosse dentata, exteriora obtusa v. obtusiuscula, interiora acuta; caulina 4—5 sensim decrescentia, infimum basi attenuatum, sequentia basi lata sessilia, \pm grosse dentata acuta; omnia parum glaucescentia mollia. Inflorescentia alte furcata indeterminata 3—6 cephalae; acladium 1—3 (—9) cm longum; ordines axium 2—3; rami primarii 2—4 valde remoti crassiusculi. Involucrum 15—16 mm longum ovatum demum ventricosum-globosum; squamae latiusculae longe acuminatae, exteriores acutissimae, interiores subobtusiusculae v. etiam acutissimae, omnes nigrae; bractae c. 2 \pm subulatae. Pili involucri satis numerosi diluti 2—3 mm longi, folia utrimque \pm dense pilosa, 2,5—3,5 mm, caulomata superne modice pilosa, inferne pilis subnumeris albis 3—4 (—5) mm longis obsita. Glandulae in involucri apicem squamarum versus dispersae v. nullae. Flocci: involucrum \pm disperse floccosum, folia effloccosa, caulomata superne albidotomentosa, inferne fere usque ad basin demum floccosa. Flores subdilute lutei, ligulae apice glabrae, stylus fuscus; achaenia subdilute brunea, 4,5 mm longa.

Crescit in alpinis calcareis inter 1500—2370 m. Helvetia: ad pedem m. Wetterhorn pr. Grindelwald (Christener), in valle Eginental (Lagger), in m. Kalkberg supra Splügen, pr. Schuls (versus Muotta Naluns) in Rhaetia Engadinensi, in alpinis Abbatisceclanis (Bamberger); Jura: Roetifluh (Christener); Tirolia: in valle Teischnitz pr. Kals (Pichler), in jugo Bergertörl pr. Kals, Kaserenwiesen pr. Neuprags (N. P.); in alpinis Bavariae: Schachen (Sendtner), Hochwies, Reitalpe, Benediktenwand, Miesing (N. P.); Carinthiae: Heiligenblut (Schnizlein).

Exsiccata: Hieracia Naegeliana no. 371.

Tab. 33, Fig. A. 1—2. *H. dentatum* Hoppe ssp. *pseudoporrectum* Christener (forma minus grosse dentata e valle Sertigtal pr. Davos 1880 m, leg. ipse). 1. Squama. 2. Achaenium.

Subspecies **Hoettingense** J. Murr, apud Zahn in Koch Synops. (1901) p. 1795 et in

Oesterr. bot. Zeitschr. (1902) p. 353; *H. pseudoporrectum* J. Murr in sched. et in Deutsch. bot. Monatsschr. (1897) p. 243. — Folia caulina saepe quoad formam et nervaturam transitum *dentatum* > *elongatum* exhibentia. Caulis 35—40 cm altus gracilis erectus saepe haud flexuosus substriatus phyllopodus. Folia rosularia complura petiolata oblongo-lanceolata denticulata v. subserrato-dentata, exteriora acutiuscula, interiora acuta, omnia in petiolum sensim angustata; caulina 4—5 sensim decrescentia, infimum utrinque longe angustatum subpetiolatum acutum, sequentia parum attenuata v. rotundata sessilia, media saepe supra basin subcontracta inconspicue subpanduriformia ± dentata ± breviter acuminata acuta; omnia viridia submollia. Inflorescentia alte furcata 1—3 cephalae; acladium 1—5 cm longum. Involucrum 11,5—13 mm longum ovatum demum globosum; squamae sublatiusculae longe acuminatae acutae v. acutiusculae nigrae. Bracteae c. 2 lineares v. subulatae. Pili in involucrio numerosi 2—3 mm longi, caulomata superne subpilosa v. pilosa inferne minus pilosa, 2—3 (—4) mm, folia subpilosa supra saepe glabrescentia. Glandulae in involucrio dispersae, interdum etiam in acladio solitariae. Flocci: involucrum disperse floccosum, folia effloccosa, caulina superiora in nervo dorsali subfloccosa, caulomata superne albidotomentosa, infra medium subeffloccosa v. fere usque ad basin parciflocca. Flores ± dilute lutei, ligulae apice glabrae, stylus luteus subfuscescens; achaenia brunea 3,5—4 mm longa.

Crescit in alpinis calcareis Tiroliae: Hoettinger Alpe pr. Innsbruck (loc. class.), Weissenbach in valle Ahrntal (Treffer), in valle Vennertal iuxta jug. Brenner (Baer).

Exsiccata: Dörfler, Herb. norm. cent. XXXII no. 3137 sub nom. *H. pseudoporrectum* (leg. J. Murr).

Tab. 33, Fig. B. 3. *H. dentatum* Hoppe ssp. *Hoettingense* Murr (e loc. class., leg. Murr). 3. Pedunculus sub involucrio.

Grex IV. Dentatiforme N. P.

Subspecies **Carinthicola** N. P., Hierac. Mitteleurop. II p. 185. — Caulis ad 20 (—27) cm altus gracilis v. subtenuis erectus subtiliter substriatus phyllopodus. Folia rosularia 2—5 petiolata lanceolata, sensim in petiolum attenuata, exteriora obtusa, interiora acuta saepe plicato-acuminata, argute et subregulariter serrata glaucescentia tenuia; caulina 2—4 sensim decrescentia basi sublata v. infima angustata sessilia acutissima. Inflorescentia altefurcata haud suprafastigiata 1—3 cephalae; acladium 1,5—4 cm longum; rami primarii 0—2 tenues monocephali. Involucrum 11—12 mm longum ovatum demum fere globosum; squamae sublatiusculae longe acuminatae acutissimae subnigrae parum dilute marginatae, exteriores sublaxae. Bracteae c. 2. Pili involucri modice v. sat numerosi diluti, caulomata mediocriter pilosa, folia superne marginem versus disperse v. parce pilosa subtus subpilosa, pili ubique 1,5—2 (—3) mm longi. Glandulae ubique nullae, in involucrio tantum dispersae minutae. Flocci involucri dispersi, caulomata superne albidotomentosa inferne deminute floccosa, folia effloccosa. Flores lutei abbreviati tubulosi, in dentes profundos incisi apice glabri; stylus obscurus; achaenia fere atra 3,8 mm longa.

Crescit in alpinis calcareis Carinthiae: Gartnerkofel et Auernig pr. Pontafel 1885—2080 m, Thörler Alp et Obere Fischbachalp pr. Raibl versus Kanadulscharte 1800—2050 m (Peter).

Tab. 34, Fig. A. 1—3. *H. dentatum* Hoppe ssp. *Carinthicola* N. P. (e valle Trogtal Carinthiae, leg. R. de Benz). 1. Flos. 2. Squama. 2. Pedunculi portio.

Subspecies **dentatiforme** N. P. II p. 186. — Caulis ad 25 cm altus tenuis flexuosus erectus phyllopodus. Folia rosularia 3—5 longe petiolata lanceolata v. anguste lanceolata

acuta v. acutiuscula mucronata denticulata v. breviter dentata saepius undulata vel plicata glaucescentia mollia; caulina 3—4 subsensim decrescens lanceolata basi angustata. Inflorescentia furcata saepe parum suprafastigiata 1—3 cephala; acladium 3—7 cm longum; rami primarii 0—2 tenues monocephali. Involucrum 11—13 mm longum \pm globosum; squamae angustae longe acuminatae acutissimae obscurae v. subnigrae, exteriores immarginatae \pm laxae, interiores in margine subdilutiores. Bractee 3—5 subulatae. Pili involucri modice v. sat numerosi diluti 1—1,5 mm longi, caulomata superne modice pilosa, 1—1,5 mm, inferne densius pilosa, 2—3 (—4) mm, folia supra \pm subpilosa, subtus pilis subnumerosis v. numerosis obsita (2—3 mm l.). Glandulae minutissimae, in involucrio tantum solitariae. Flocci in involucrio sparsi, caulomata superne canotomentosa inferne usque ad basin deminute floccosa, folia effloccosa. Flores flavi, ligulae apice glabrae, stylus valde obscurus; achaenia distincte brunea, 3 mm l.

Crescit in alp. calc. inter 1500—2500 m. Helvetia: Sex rouge et Lécheret in Ormonts (Naeg.), Bonaudon inter Montreux et Allières (Lagger), Val Fex, inter Bivio et jugum Valettapass et in valle Avers usque ad pagum Croet, pr. Parpan versus m. Weisshorn et Schwarzhorn (Peter), in monte Valserberg pr. Hinterrhein (Naeg.); Tirolia: in montibus calc. vallis Oeni superioris praesertim pr. Innsbruck et Hall (Murr), in valle Vennertal iuxta iugum Brenner (Naeg.), Kaserenwiesen pr. Neuprags (Naeg.); Vorarlbergia: in m. Arlberg (Murr), in valle Malbun (Richen); Algovia: Kl. Rappenkopf, Schachen (Sendtner); Carinthia: Albitzenwiesen pr. Pasterzengletscher (N. P.).

Exsiccata: Hierac. Naegelianum no. 375; Baenitz, Herb. europ. sub nom. *H. dentatum* v. *coarctatum* Murr (Oesterr. bot. Zeitschr. 1891 p. 220; Allgem. bot. Zeitschr. 1895 p. 207).

Tab. 34, Fig. B. 4—5. *H. dentatum* Hoppe ssp. *dentatiforme* N. P. f. *viridius* Murr (folia obscure viridia, parum glaucescentia) e jugo Lavatsch pr. Hall Tiroliae (leg. Murr). 4. Squama. 5. Pedunculus sub involucrio.

Subspecies **Ormontense** N. P. II p. 185; *H. Sixtinum* Arv.-Touv. et Briquet, Nouvelles notes florist. sur les Alpes léman., in Annuaire Conserv. et Jardin bot. Genève (1899) p. 132 et in sched.; *H. Schleicheri* A.-T., Ann. Conserv. Jard. Genève I (1897) p. 76, non N. P., nec Paiche. — Caulis ad 35 cm altus erectus strictus v. parum flexuosus tenuis v. gracilis striatus phyllopodus. Folia rosularia 2—4 saepe \pm emarcida petiolata basin versus longe attenuata, exteriora ovata v. obovata rotundata obtusa, reliqua \pm oblonga v. oblongo-lanceolata obtusa v. \pm acuta mucronata glaucescentia tenuia; caulina (2—) 3—4 (—5) sensim decrescens, infima basin versus attenuata, media basi cuneiformia sessilia, summa basi \pm rotundata, rosularia dentata, caulina saepe grosse dentata v. superiora fere integerrima. Inflorescentia altefurcata demum suprafastigiata 1—4 cephala; acladium (1—) 3—4 (—9) cm longum; rami primarii (0—) 1—3 subremoti suboblique erecti monocephali. Involucrum 12—14 mm longum \pm globosum demum late depressum; squamae latiusculae longe acuminatae acutissimae nigrae fere immarginatae, exteriores tantum laxae. Bractee 2—3 subsubulatae. Pili in involucrio modice numerosi subdiluti, 1,5 mm longi pedunculi superne breviter pilosi inferne epilosi, caulis superne fere epilosus basin versus parcepilosus, 2—3 mm, folia supra epilosa, in margine et subtus in nervo mediano saepe mediocriter pilosa, 2—3 mm, lamina subtus disperse pilosa. Glandulae nullae, in involucrio tantum dispersae. Flocci involucri sparsi v. dispersi, pedunculi leviter albidotomentosi, caulis superne multifloccus inferne fere

usque ad medium deminute floccosus, folia effloccosa. Flores intense lutei, ligulae apice glabrae; stylus fuscescens; achaenia castaneo-brunea 3,5—3,8 mm longa.

Creseit in alpihus calcareis inter 18—2500 m. Sabaudia: Vallée de Bostan supra p. Sixt (Briquet), Helvetia: Creux de Champ, Sex rouge, Lécheret et Palette in Ormonts-dessus (Naeg.), Solalex et La Varaz supra Bex (Schleicher, Zahn).

Vidi plantas cultas Schleicherianas pro *H. Sixtino* a cel. Arvet-Touvet determinatas, quae iam in Friesii *Epierisi* p. 63 sub nomine *H. pallescenti* Schleicher notatae sed non bene descriptae sunt. Planta Naegelianana non recedit.

Tab. 35, Fig. B. 3—5. *H. dentatum* Hoppe ssp. *Ormontense* N. P. (e glareosis Creux de Champ (leg. ipse). 3. Squama. 4. Pedunculus sub involucri. 5. Achaenium.

Grex *Dentatum* N. P.

Subspecies **cuspidatifolium** Murr in sched (1898), Katalog Wien. bot. Tauschverein (1900), Österr. bot. Zeitschr. (1902) p. 354 — Caulis 17 ad 30 cm altus subtenuis v. gracilis erectus subflexuosus substriatus phyllopodus. Folia rosularia 2—5 breviter petiolata, exteriora minora spathulata saepissime emarcida, reliqua lanceolata spathulata obtusiuscula v. pleraque lanceolata acuminata cuspidata, remote denticulata aut dentata, dilute viridia subglaucescentia tenuia; caulina (1—) 2—3 cito decrescentia, infimum lanceolatum cuspidatum basin versus subattenuatum sessile, reliqua ovato-lanceolata v. anguste lanceolata longe acuminata acutissima. Inflorescentia alte furcata saepissime 2 cephalae; acladium 3—6 cm longum. Involucrium 12—14 mm longum ovato-globosum demum ventricatum; squamae latiusculae longe acuminatae acutissimae subnigrae, interiores virides submarginatae; bractae ca. 2 subulatae. Pili involucri satis numerosi 1—2,5 mm longi, caulomata superne modice pilosa inferne saepe minus pilosa, 1,5—3 mm, folia utrinque disperse pilosa, in margine petioloque et subtus in nervo mediano densius et molliter pilosa. Glandulae in involucrio dispersae, pedunculi superne glandulis parvis solitariis praediti, caulis eglandulosus. Flocci involucri dispersi, pedunculi superne multiflocci v. leviter (obscurae) canae, caulis superne subfloccus. Flores saturate lutei, ligulae apice rarius ciliatae, stylus obscurus; achaenia nigro-brunea.

Creseit in alpihus calcareis inter 17—1900 m. Tirolia: Hoettinger Alpe pr. Innsbruck (Murr); Bavaria: in m. Schachen pr. Partenkirchen (idem).

Ex affinitate *H. lonchitis* N. P., sed minus pilosum et multo minus floccosum. Transitus subvillosus → Murrianum.

Tab. 35, Fig. A 1—2. *H. dentatum* Hoppe ssp. *cuspidatifolium* Murr (e m. Hoettingeralpe, leg. Murr). 1. Squama. 2. Pedunculus sub involucri.

Subspecies **prionodes** N. P. II p. 188. — Caulis ad 25 (—35) cm altus gracilis erectus flexuosus phyllopodus striatus, interdum usque ad basin ramosus. Folia rosularia complura, breviter petiolata, elliptica v. oblonga, obtusa v. acuta, grosse serrato-dentata; caulina 2—3 cito decrescentia lanceolata basi angustata, summum parvum lineare; omnia subglaucescentia viridia mollia. Inflorescentia furcata haud suprafastigiata indeterminata 3—6 cephalae; acladium 3,5—6 cm longum; rami primarii 2—5 valde remoti tenues monocephali. Involucrium 13—14 mm longum ovatum demum globosum; squamae angustae lineares sensim attenuatae acutissimae nigrae, angustissime diluteque marginatae, exteriores sublaxae v. subadpressae. Bractae c. 3 subulatae. Pili involucri satis numerosi diluti, 1—1,5 mm longi, caulomata modice v. sat dense pilosa, 2—3 mm, folia utrinque sat dense pilosa, 2,5—3 mm. Glandulae nullae, squamae apicem versus tantum sparsim et minutissime

glandulosae. Flocci involucri dispersi vel modice numerosi, squamae in margine multifloecae folia effloecosa, caulomata superne canotomentosa, inferne usque ad basin deminute floecosa. Flores intense lutei, ligulae apice non v. breviter ciliatae; stylus obscurus. Achaenia aterrima 4 mm longa.

Crescit in alpinis calcar. inter 15—2450 m. Tirolia: Vennertal, Griesberg et Wolfental iuxta iugum Brenner (Naegeli); Helvetia: in valle Eginental (idem).

Variat: 1) *normale* N. P. — Brenner.

2) *microcarpum* N. P. Achaenia brunea, 3 mm longa. Caulis sparsim v. mediocriter pilosus. Folia rosularia exteriora ovata v. elliptica obtusa, interiora oblonga acutiuscula, omnia longe petiolata. — Vennertal.

Exsiccata: Hieracia Naegeliana no. 377.

Tab. 36, Fig. A. 1—3. *H. dentatum* Hoppe ssp. *prionodes* N. P. 1) normale N. P. (e iugo Brenner, leg. Baer). 1. Dentes ligularum. 2. Squama. 3. Pedunculus sub involucrio.

Subspecies **Gaudini** Christener, Hierac. d. Schweiz (1863) p. 10; N. P. II p. 190; *H. pilosum* Schleich. exs. pp.; *H. Schraderi* v. *dentatum* Gaudin, Fl. Helv. V (1829) p. 69. — Caulis 10—20 (—35) cm altus gracilis v. tenuis erectus subflexuosus striatus phyllopodus. Folia rosularia complura petiolata lanceolata, acutiuscula v. acuta mucronata, exteriora oblonga v. fere obovata rotundato-obtusa; caulina 2—3 cito decrescentia, summum parvum ± lanceolatum basi angustatum sessile; omnia dilute viridia parum glaucescentia, integerrima v. remote denticulata v. subdentata mollia. Inflorescentia furcata, saepe ± suprafastigiata, 1—2 (—4) cephalae; acladium 4—13 cm longum; rami primarii 0—1 (—3) tenues monocephali. Involucrum 13—15 mm longum ovatum demum ± globosum; squamae angustae lineares longe acuminatae acutissimae, obscurae, exteriores laxae. Bractee c. 3 fere subulatae. Pili in involucrio satis numerosi diluti 2—3 mm longi, caulomata modice v. sat dense pilosa (3—4 mm), folia supra pilis 3—4 l. sparsis v. subnumericis mollibus subtus densis oblecta. Glandulae nullae, squamae apicem versus disperse et minute glandulosae. Flocci involucri ± sparsi, caulomata superne canotomentosa, inferne usque ad basin floecosa, folia caulina superiora subtus in nervo dorsali disperse floecosa, reliqua effloecosa. Flores saturate lutei, ligulae apice glabrae v. saepissime subciliatae; stylus obscurus. Achaenia nigro-brunea v. aterrima, 3—3,8 mm longa.

Crescit locis petroso-schistosis calcareis alpinis inter 1350—2600 m.

Variat: 1) *normale* N. P. — Helvetia: Les Morteys (Jaquet), Montbovon, Château d'Oex, Bonaudon (Leresche, Lagger), Stockhornkette (Christener), in alpinis v. Simmental (Maurer); Ormonts (Naegeli), in alpinis supra Bex non infrequens (Muret), Sanetsch, Rawyl (Wolf) etc., Helvetia orientalis: Parpan, Albula, Engadin, Bernina, Splügen (N. P.), Sertig (Zahn) Scesaplana (N. P.) Tirolia: Fernpass, Kerschbaumer Alpe (Naegeli, Huter); Algovia: Kegelsköpfe, Kl. Rappenkopf, (N. P.).

2) *villosius* N. P. Involucrum et caulomata densius pilosa, caulis longe pilosus (—6 mm); rami primarii interdum 3—4. — Helvetia: Ad pedem m. Wetterhorn (Christener), Gemmi (Naeg.), Zandalp (Wolf); Frohnalp, Mürtchenstock, Albula, Val del Fain, Piz Alv (Naeg.), Piz Padella, Val Fex (Peter); Vorarlbergia: Scesaplana; Algovia: Hochvogel (Sendtner); Tirolia: Arlberg (N. P.), Imst (Naeg.); Bavaria: Schachen p. Partenkirchen (N. P.).

3) *tubulosum* N. P. Flores tubulosi stylosi; pili involucri numerosi 3—4 mm longi. — Val Avers: inter Cresta et Valettapass, Parpan (Peter).

Exsiccata: Fries, Hier. europ. exs. 35bis pp.; F. Schultz, Herb. norm. nov. ser. no. 1813; Hierac. Naegel. no. 379.

Tab. 36, Fig. B. 4—8. *H. dentatum* Hoppe ssp. *Gaudini* Christener 1) *normale* N. P. (e Luchernalpe in valle Simmental, leg. Kaeser). 4. Squama. 5. Pedunculus sub involucrio. 6. Caulis portio. 7. Nervus dorsalis (fol. caul.). 8. Achaenium.

Subspecies **callianthoides** Arv.-Touv. et Briq., Bull.-Soc. Murithienne XXVIII (1900) p. 70. — Forsan varietas maculata *H. dentati* ssp. *dentatum*! Caulis 20 ad 25 cm altus gracilis erectus saepe subflexuosus subtiliter striatus phyllopodus. Folia rosularia numerosa breviter petiolata, exteriora minora obovata obtusa saepissime emarcida, interiora conspicua elliptica v. oblongo-lanceolata v. lanceolata acutiuscula v. acuta mucronata, remote denticulata, dilute viridia subglaucescentia intense violacea et supra bruneo-maculata rigiduscula sensim in petiolum attenuata; caulina (1—) 2—3 (—5) cito decrescentia, late lanceolata basi angustata sessilia, superiora saepissime non evoluta bracteiformia lineari-lanceolata acutissima. Inflorescentia fere semper monocephala. Involucrum 14—16 mm longum late globosum demum late ventricosum-globosum depressum; squamae angustae acutissimae obscurae adpressae. Bractee 2—4 anguste lineares elongatae. Pili in involucrio sat numerosi diluti, 2—3 mm longi, caulomata superne subdense pilosa, 2—2,5 mm, inferne subpilosa, folia utrimque modice pilosa, in margine et subtus in nervo mediano densius pilosa, 1—2 mm. Glandulae ubique nullae, squamae apicem versus glandulis minutissimis obsitae. Flocci involucri subnulli, caulomata superne tomentosa, inferne effloccosa, folia effloccosa. Flores intense lutei, ligulae apice subglabrae, stylus obscurus; achaenia brunea.

Crescit in jugo Col de Lovenex! 1760 m sub m. Grammont Valesiae (entre le vallon de Novel et Haut de Taney), leg. Briquet. — Collegi exemplaria speciosa m. Aug. 1905 in consortio *H. dentati* ssp. *dentatum* Hoppe quocum valde affine, sed differt squamis angustioribus et foliis supra intense maculatis.

Tab. 37, Fig. A. 1—3. *H. dentatum* Hoppe ssp. *callianthoides* Arv.-Touv. et Briq. (e jugo Col de Lovenex, leg. ipse). 1. Flos. 2. Squama interior. 3. Squama exterior.

Subspecies **Vaudense** Arv.-Touv., apud Wilczek, Notes Hierac. Alp. suisses etc., in Bull. Soc. Murith. XXXI (1901) p. 100; *H. dentatum* v. *vaudense* ? A.-T. l. c.; *H. dentatum* ssp. *Salevense* N. P. II 194, non Rapin¹⁾! — Caulis ad 30 cm altus gracilis erectus subflexuosus striatus phyllopodus. Folia rosularia complura petiolata, exteriora suboblonga obtusa, interiora lanceolata v. anguste lanceolata integerrima v. inconspicue dentata acutiuscula mucronata, pallide viridia subglaucescentia tenuia; caulina 2—3 cito decrescentia, infimum ± lanceolatum subpetiolatum, summum parvum sessile. Inflorescentia furcata saepe subsuprafastigiata 1—3 cephalae; acladium 6—10 (—12) cm; rami primarii 0—2 valde remoti tenuissimi v. graciles monocephali. Involucrum 16—18 mm longum crassum ovatum demum globosum; squamae angustae lineares longissime acuminatae acutissimae ± nigrae, extimae ± laxae. Bractee 3—4 subulatae. Pili involucri satis numerosi diluti, 1,5 mm, caulomata superne ± disperse pilosa, 1—1,5 mm, inferne subpilosa, 3 mm, folia utrimque mediocriter v. subdense et molliter pilosa (2—2,5 mm, in margine

¹⁾ Vidi specimina Rapiniana e monte Saleve. H. misaucinum N. P. ssp. *H. pseudodentatum* (Billot) N. P. II 240!

ad 4 mm longi). Glandulae nullae, squamae apicem versus modice glandulosae. Flocci in involucrio sparsi v. dispersi, caulomata superne canotomentosa, inferne usque ad medium caulis deminuti, folia subtus in nervo mediano \pm disperse floccosa. Flores saturate lutei, ligulae apice glabrae v. breviter subciliatae; stylus obscurus. Achaenia atra, 3,5 mm l.

Crescit in albis calcareis inter 17—2400 m. Helvetia: Arpille, Marnex, Palette in Ormonts (Naegeli), La Dix (Wilczek et Jaccard).

Variat: $\alphagenuinum N. P. — Ibidem.$

β) **ochrochlorum** N. P. II 195. Folia rosularia longe petiolata, exteriora \pm obovata v. \pm spatulata obtusa, omnia subundulata mucronato-denticulata, eximie glaucescentia. Inflorescentia 2—4 cephalae, involucrum c. 11 mm longum globosum; folia supra mediocriter pilosa, pili rigidiusculi, 2—3 mm l. — Ormonts: Creux de Champ (Naegeli), Vallée de Bagnes: Torrembec (Wolf), ad pedem m. Wetterhorn (Christener); pr. Silvaplana; Tirolia: Kaserenwiesen pr. Neuprags, Wolfenalp iuxta iugum Brenner, Imst (Naegeli).

Exsiccata: Hieracia Naegeliana no. 379**.

Tab. 37, Fig. B. 4—6. *Hieracium dentatum* Hoppe ssp. *Vaudense* A.-T. $\alphagenuinum N. P. (e glareosis Creux de Champ. in Ormonts, leg. ipse). 4. Squama. 5. Pedunculus sub involucrio. 6. Caulis portio.$

Grex *Expallens* N. P.

Subspecies **expallens** (Fries) N. P. II 198; Fries, *Epier.* (1862) p. 63 pro var. *H. dentati*; *H. pallescens* Schleicher¹⁾ in sched. apud N. P. — Caulis ad 32 cm altus tenuis subascendens v. fere erectus subflexuosus striatus phyllopodus. Folia rosularia complura petiolata, exteriora \pm spatulata rotundata, interiora \pm lanceolata obtusa v. obtusiuscula mucronata dentata v. denticulata, saepe subundulata, fere glauca; caulina c. 3 cito decrescentia, infimum \pm petiolatum, reliqua sessilia lanceolata. Inflorescentia albefurcata haud suprafastigiata 1—2 cephalae; acliadium 2,5—5 cm longum; rami primarii 0—1 tenues monocephali. Involucrum 11—13 (—14) mm longum ovatum demum subglobosum; squamae angustae v. sublatiusculae lineares longe acuminatae acutissimae nigrae parum dilute marginatae exteriores laxae. Bractae c. 2 lineares. Pili in involucrio modice numerosi diluti, 1,5 mm caulomata superne \pm disperse pilosa, 1—1,5 mm, inferne sparsim pilosa v. epilosa, folia in margine tantum disperse pilosa, 1,5—2 mm. Glandulae apicem squamarum versus dispersae minutae. Flocci involucri sparsi, caulomata superne canotomentosa, infra medium fere effloccosa, folia effloccosa. Flores lutei, ligulae apice glabrae rarius breviter subciliatae; stylus obscurus. Achaenia nigro-brunea, 3,3—3,5 mm longa.

Crescit in albis calcareis inter 13—2400 m.

Variat: 1) **normale** N. P. — In albis Bavariae, Algoviae, Salisburgiae, Tiroliae, Helvetiae.

2) **pilosius** N. P. Involucrum dense pilosum, 2—3 mm, folia supra \pm disperse pilosa saepe \pm grosse dentata, capitula 2—4. — Tirolia: Brenner, non infrequens (Naegeli). Bavaria: Wetterstein pr. Partenkirchen (N. P.). — Huc pertinet *H. Breunium* Huter, apud Murr, *Allg. bot. Zeitschr.* (1895), planta gracilis saepe valde ramosa ad 7 cephalae. —

¹⁾ Planta Schleicheriana (in herb. Schleich.) est *H. dentatum* ssp. *Ormontense* N. P.

- 3) *stenolepium* N. P. Squamae angustae v. angustissimae. — Algovia, Tirolia, Bavaria, Salisburgia, Helvetia: inter Bergün et Weissenstein (N. P.).
- 4) *Oenipontanum* Murr, Oesterr. bot. Zeitschr. (1889) p. 46; Deut. bot. Monatschr. (1890) p. 109. Folia elliptica v. ovata v. oblongo-lanceolata fere integerrima v. inconspicue subdenticula. — In monte Salzberg p. Hall et versus Thörl, Muttenjoch, Hühnerspiel iuxta iugum Brenner (Murr).
- 5) *chlorocephalum* N. P. Squamae sublatiusculae canovirides, extimae laxae subfoliaceae minus longe acuminatae; folia supra disperse pilosa, caulis usque ad basin floccosus. — Tirolia: Lappachtal (Ausserdorfer), Höttinger Alpe et Haller Anger (J. Murr).

Exsiccata: Dörfler, Herb. norm. no. 3139.

Tab. 38, Fig. A. 1—3. *H. dentatum* Hoppe ssp. *expallens* (Fries) N. P. f. *Oenipontanum* Murr (e monte Haller Salzberg, leg. Murr). 1. Dentes ligularum. 2. Squama. 3. Pedunculus sub involucrio.

Grex Waldense Zahn.

Subspecies **subreductum** Murr, apud Zahn, in Koch Synops. (1901) p. 1797, Murr. Oesterr. bot. Zeitschr. (1902) p. 355; ssp. *reductum* Murr, Katal. Wiener bot. Tauschver. (1900). — Caulis 10—15 cm altus gracilis erectus subflexuosus substriatus phyllopodus. Folia rosularia c. 5—7 breviter petiolata, exteriora minora ovata rotundata obtusa mucronata, reliqua ovata v. elliptica v. interiora oblongo-lanceolata obtusiuscula v. acutiuscula mucronata, remote denticulata v. subdentata, viridia leviter subglaucescentia rigidiuscula; caulina 2 (—3) cito descrescentia, infimum late lanceolatum basin versus saepe subdentatum, reliqua parva v. bracteiformia. Inflorescentia 1 cephalata v. furcata- 2 cephalata, acladium ad $\frac{2}{3}$ totius caulis. Involucrum c. 13 mm longum ovatum demum globosum; squamae subangustae longe acuminatae acutae obscurae, interiores acutissimae viridi-submarginatae; bractee c. 2—3 subulatae. Pili in involucrio numerosi albidi 2 mm longi, caulomata mediocriter pilosa, 2—3 mm, folia utrinque mediocriter v. sat dense pilosa, 1—2,5 (—3) mm, exteriora saepe minus pilosa. Glandulae in involucrio dispersae, pedunculi saepissime eglandulosi. Flocci involucri parci, pedunculi superne leviter tomentosi, inferne multiflocci, caulis inferne fere effloccosus. Ligulae saturate luteae apice glabrae, stylus demum obscurus; achaenia nigro-brunea. — Forsan transitus inter *H. dentatum* et glabratoides Murr sed habitu ad *H. Murrianum* praesertim huius subspeciem *H. pseudomurrianum* accedit.

Crescit locis glareosis calcareis in alpibus Bavariae: Dammkar pr. Mittewald (detex. et leg. Murr).

Tab. 38, Fig. B, C. *H. dentatum* Hoppe ssp. *subreductum* Murr (e loc. class.).

Subspecies **Waldense** Murr, Allgem. bot. Zeitschr. (1899) p. 42 et in Koch Synops. (ed. Hall.-Wohlf.) 1901 p. 1796. — Caulis 17—30 cm altus gracilis v. subtenuis erectus subflexuosus inconspicue striatus phyllopodus. Folia rosularia complura petiolata, exteriora minora elliptica obtusiuscula, interiora oblongo-lanceolata utrinque acuminata acuta mucronata dilute viridia parum glaucescentia submollia mucronata- et serrato-dentata v. denticulata; caulina 2 (—3) cito decrescentia, infimum late lanceolatum \pm longe acuminatum acutum basi angustatum v. ut summum basi \pm rotundatum sessile. Inflorescentia altefurcata 1—3 cephalata; acladium 2—7 cm longum; rami primarii 0—2 remoti monocephali. Involucrum 12—14 cm longum ovatum; squamae sublatiusculae longe acuminatae acutae, exteriores

saepe acutiusculae obscurae adpressae, interiores margine pallide virides. Bractee c. 2 subulatae. Pili involucri modice numerosi 1—2 mm longi, caulomata mediocriter pilosa, 1—3 mm, folia utrinque subpilosa v. supra minus pilosa, pilis mollibus 2—3 mm longis obsita. Glandulae involucri fere nulli. Flocci involucri subnumerosi, in margine squamarum densiores, caulomata superne canotomentosa, inferne deminute floccosa basin versus fere effloccosa, folia caulina subtus in nervo mediano subfloccosa. Flores saturate lutei, ligulae apice glabrae, stylus fuscus; achaenia nigro-brunea.

Crescit locis petrosis pr. Wald (loco dicto Hühnerkaar) Stiriae superioris (E. Khek). Habitus *H. dentati*, involucrium fere ut in *H. subspeciosum*.

Tab. 39, Fig. A. 1—3. *H. dentatum* Hoppe ssp. *Waldense* Murr (e loc. class., leg. E. Khek). 1. Squama. 2. Pedunculus sub involucrio. 3. Nervus dorsalis fol. caul.

Subspecies ***rumicifolium*** Murr in sched. et apud Zahn, in Koch Syn. (1901) p. 1797; Murr, Oesterr. bot. Zeitschr. (1902) p. 354. — Caulis 30—40 cm altus gracilis erectus flexuosus subtiliter substriatus phyllopodus. Folia rosularia 3—6 petiolata, exteriora minora ovata obtusa saepe emarceida, reliqua elliptica v. oblongo-lanceolata acutiuscula v. utrinque acuminata in petiolum alatum decurrentia acuta mucronata remote denticulata (v. saepe unus tantum dens more *Rumicis acetosellae* magis evolutus), dilute viridia subglaucescentia tenuia; caulina 3 (—4) subsensim decrescentia, infima lanceolata acuminata in petiolum alatum longe attenuata, superiora basin versus angustata subsessilia cuspidata. Inflorescentia 1- cephala v. furcata 2—5 cephala; acladium 3,5 cm — c. $\frac{1}{3}$ totius caulis. Involucrium 14—15 mm longum late ovatum; squamae subangustae longe acuminatae acutissimae obscurae, interiores \pm viridimarginatae; bractee c. 2—3 subulatae. Pili involucri numerosi basi obscuri 1—2 mm longi caulomata superne pilis basi obscuris subpilosa, inferne minus pilosa, caulis basin versus disperse pilosus, 2—3 mm, subviolaceus (ut interdum petioli foliorum), folia fere epilosa, in margine petioloque tantum disperse pilosa, basin versus magis pilosa, 1—2 mm. Glandulae in involucrio dispersae, in pedunculis interdum subsolitariae. Flocci involucri subnulli, squamae in margine basin versus subfloccosae, pedunculi multifloci v. superne tantum leviter tomentosi, caulis superne multiflocus, infra medium effloccosus. Ligulae luteae, apice saepe subiliatae; stylus demum subfuscescens; achaenia brunea. — Verosimiliter hybridum ex *H. glabratoide*s Murr et *H. dentatum*.

Crescit in albis calcareis confinii Tiroliae et Bavariae: locis glareosis Dammkar pr. Mittenwald (det. et leg. J. Murr).

Tab. 39, Fig. B. 4, 5. *H. dentatum* Hoppe ssp. *rumicifolium* Murr (e loc. class.). 4. Squama. 5. Pedunculus sub involucrio.

28. *Hieracium incisum* Hoppe, apud Sturm, Deutschl. Flora fasc. 39; Zahn, in Koch Synops. (1901) p. 1797; *H. incisum* Koch, Syn. ed. 2 II (1844) p. 523 pp.; Sendtner, in Flora (1854) p. 342; Fries, Epicr. (1862) p. 62; non Griseb., Comm. (1852) p. 38, nec Reichb. fil., Compos. tab. 160 (1860); *H. Hoppeanum* Froel., in DC. Prodr. VII (1838) p. 232, non Schult.; *H. villosum* \times *murorum* Neilreich, Verhandl. zool.-bot. Ver. Wien (1851) p. 123 pp., Sendtner, Südbayr. Hierac. in Flora 1854 p. 342; F. Schultz, Archives 1854 p. 15; Neilreich, Krit. Zus. Hierac. (1871) p. 461; = ***silvaticum*** > ***villosum*** N. P. II p. 120; Zahn l. c. — Habitus *H. dentati* v. *H. silvatici*. Caulis 10—40 cm altus subtenuis v. gracilis ascendens v. erectus saepe subflexuosus \pm striatus basin versus saepe violaceus phyllopodus. Folia rosularia pauca v. complura (4—8) petiolata ovata elliptica v. oblonga lanceolata, sensim

v. \pm abrupte basin versus attenuata v. (praecipue exteriora) basi rotundata truncata interdum \pm cordata, apice rotundata v. obtusiuscula v. acutiuscula acutave, dentata basin versus saepe grosse dentata ut in *H. silvatico*, dilute v. saturate v. obscure viridia saepe subglaucescentia, subtus saepe violacea, sat mollia v. rigidiuscula; caulina 0—2 cito decrescentia radicalibus \pm similia lanceolata v. linearia. Inflorescentia furcata v. laxe paniculata \pm suprafastigiata 1- oligocephala rarius pleiocephala; acladium 1—8 cm ($-\frac{2}{3}$ totius caulis), rami primarii 0- pauci \pm remoti monocephali v. simpliciter ramosi. Involucrum ventricosum-globosum v. ovatum 10—15 mm longum; squamae saepissime angustae longe acuminatae \pm acutae v. acutissimae subobscurae v. atrae saepe \pm dilute marginatae. Bractee paucae v. complures. Pili involucri densissimi v. mediocriter numerosi sat longi v. breves, 1—2,5 mm, albi basi obscuri v. obscuri, pedunculi dense v. modice v. disperse pilosi, caulis sat dense v. disperse v. fere non pilosus, folia supra \pm epilosa v. densipila, subtus fere semper mediocriter v. dense pilosa, pili molles v. supra \pm rigidi, in margine nervo dorsali petioloque subdense v. densissimi, petiolus saepe \pm longe villosus (1—3—4 mm). Glandulae involucri pedunculique solitariae v. modice numerosae, caulis superne glandulis parum numerosis obiectus vel omnino eglandulosus. Flocci involucri dispersi v. \pm numerosi, pedunculi multiflocci v. tomentosi, caulis deminute floccosus basin versus subfloccosus v. effloccosus, folia effloccosa (v. superiora etiam subtus) v. in nervo dorsali tantum subfloccosa. Flores sat magni, saturate lutei v. aurei, stylus obscurus, ligulae glabrae rarius subciliatae; achaenia \pm atra.

Crescit per alpes Italiae, Galliae, Helvetiae, Germaniae australis, Austriae, Transsilvaniae, Bosniae, saepissime in consortio *H. dentati* et villosi. — Flor. Jul.-Aug.

Dispositio gregum:

- a) *Murrianum* Zahn, in Koch Syn. p. 1797. Habitus *H. dentati*, caulis oligocephalus, acladium longum, capitula sat magna obscura \pm dense et obscure villosa, glandulae \pm sparsae.
- b) *Trachselianum* Zahn l. c. p. 1799. Habitus inter *H. dentatum* et *H. subspicosum*. Formae intermediae inter *H. dentatum* et *H. bifidum*; v. inter *H. dentatum* Grex *Dentatiforme* v. *Expallens* et *H. silvaticum* (v. *bifidum*) quasi intermediae. Caulis saepe pleiocephalus, acladium saepe breve, capitula minora modice v. dense floccosa, dilute breviterque subvillosa v. tantum disperse pilosa fere eglandulosa. Folia \pm lanceolata in petiolum \pm angustata \pm glabra dilute viridia subglaucescentia rigidiuscula, exteriora saepe \pm spathulata.
- c. *Incisum* Zahn l. c. 1800. Habitus *H. silvatici*, at capitula maiora minus numerosa, acladium longius, ligulae speciosae, squamae acutae v. acutissimae subvillosae.

Grex *Murrianum*.

Subspecies ***Murrianum*** Arv.-Touv. in litt. 1890, et apud J. Briquet in Bull. herb. Boissier II (1894) p. 629 pp.; Murr in Progr. d. Realschule Innsbruck (1891) p. 55 et in sched. ad herb. norm. nov. ser. no. 3126 et Deutsche bot. Monatsschr. (1898) p. 5. — Caulis (15—) 25—30 cm altus. Folia rosularia 5—7 sat longe petiolata, exteriora ovata obtusissima vel cochleariformia, interiora oblonga v. lanceolata acutiuscula v. acuta, abrupte v. sensim in petiolum angustata, dentata v. grosse dentata (praecipue basin versus) v. inciso-dentata dentibus \pm in petiolum descendentibus, omnia canoviridia glaucescentia mollia; caulina 0—1 (—2) lanceolata v. linearia saepe petiolata et \pm dentata, inferius haud multum supra basin insertum. Inflorescentia 1- vel furcata 2 (—3) cephalae; acladium 3,5—8,5 cm longum, rami primarii 0—1 (—2) saepissime monocephali. Involucrum 12—15 mm longum ovato-globosum demum \pm depressum; squamae subangustae acutiusculae v. acutae subnigrae margine obscure virides; bractee 2. Pili in involucrio satis numerosi 1—2,5 mm longi diluti basi obscuri,

caulomata disperse v. mediocriter pilosa, folia supra saepissime glabra, in margine petioleque et subtus in nervo dorsali subdense pilosa (1—3 mm), lamina subtus disperse pilosa. Glandulae involucri dispersae, in pedunculis \pm solitariae. Flocci involucri basin versus modice numerosi, pedunculi superne canotomentosi, caulis saepe usque ad basin subfloccosus, folia caulina in nervo dorsali tantum subfloccosa vel omnino effloccosa. Flores interdum tubulosi, ligulae subciliatae, stylus obscurus; achaenia subatra.

Crescit in alpinis calcareis inter 1350—2100 m. Helvetia: Creux de Champ (Tout.), Simmental (Kaeser), Adelboden (Dutoit), Unterschächental (Correns), Piz Padella (Candrian); Tirolia: Innsbruck et Hall (Murr), Berglthal pr. Leutasch (id.); Bavaria: Wettersteinalpe (id.); Stiria: Zeyritzkampel pr. Kalwang (Correns).

Exsiccata: Dörfler, Herb. norm. no. 3126.

Tab. 40, Fig. A. 1—3. *H. incisum* Hoppe ssp. *Murrianum* A.-T. (e monte Höttingeralpe pr. Innsbruck, leg. Murr). 1. Dentes ligularum. 2. Squama. 3. Portio pedunculi.

Subspecies **anthyllidifolium** Murr, Deutsch. bot. Monatsschr. (1890) p. 110, ibid. (1898) p. 6; Progr. d. Realsch. Innsbruck (1891) p. 55; *H. rhoeadifolium* Murr, Oesterr. bot. Zeitschr. (1889) p. 12, non Kerner. — Caulis (15—) 20—30 cm altus. Folia rosularia 4—6 petiolata oblongo-ovata v. oblonga, interiora interdum lanceolata rotundata obtusa v. acutiuscula basin versus rotundata v. \pm cito angustata, subdenticulata v. integerrima rarius basin versus inconspicue sinuato-dentata, obscure viridia, supra saepissime nuda subnitentia subtus breviter molliterque subpilosa; caulina 1—2 (—3) lanceolata integra, superiora parva. Inflorescentia vulgo altefurcata interdum \pm indeterminata 1—5 (—12) cephalae; acladium 20—35 mm (— $\frac{1}{2}$ totius caulis); rami primarii 0—3 (—5) saepissime monocephali. Involucrum crassum ovatum 12—15 mm longum; squamae angustae acutae, mediocriter sparsimve floccosae subeglandulosae dense et breviter pilosae (pilis obscuris), pedunculi \pm cani fere eglandulosi. Bractee 3—6 infimae interdum subfoliaceae lineares. Ligulae luteae apice glabrae, stylus obscurus; achaenia subatra.

Crescit in alpinis calcareis inter 16—1800 m. Tirolia: Innsbruck, Hall (Murr), Marienberg pr. Obsteig (Poell), Schnanner Loch (Preissmann), Kaiserjoch pr. Pettneu (Grembligh); Vorarlbergia: in monte Arlberg supra Stuben (Murr); Helvetia: Samaden (Candrian).

Variat 2) *dentatum* Murr in sched., et in Koch Syn. (1901) p. 1799. Folia rosularia basin versus grosse dentata. — Arlberg (Murr).

Exsiccata: Dörfler, Herb. norm. no. 3127.

Tab. 40, Fig. B. 4—6. *H. incisum* Hoppe ssp. *anthyllidifolium* Murr (e m. Arlberg, leg. Murr). 4. Squamae. 5. Pedunculus sub involucre. 6. Achaenium.

Subspecies **Hittense** Murr, in Sched. herb. norm. cent. XXXII p. 42 (1897), Deutsch. bot. Monatsschr. (1898) p. 5 et in Koch Synops. (1901) p. 1798. — Caulis 24—40 cm altus. Folia rosularia 5—8 brevius longius petiolata, exteriora elliptica obtusa basi truncata v. rotundata, plurima \pm oblongo-lanceolata v. lanceolata, \pm in petiolum angustata, omnia remote denticulata v. (praecipue basin versus) grosse dentata dentibus acutis antrorsum versis, utrinque disperse pilosa supra saepe glabrescentia, in margine breviter (in petiolo longius) subvillosa obscure viridia; caulinum 0—1 anguste lanceolatum saepissime integerrimum v. lineare. Inflorescentia altefurcata 1—3 (—4) cephalae; acladium 1—5 cm (— $\frac{1}{3}$ totius caulis); bractee e. 3. Involucrum ovato-globosum ad 15 mm longum; squamae angustae, exteriores acutiusculae (saepe obtusiusculae), interiores acutae, omnes subdense et obscure pilosae (pilis basi

atris) modice floccosae disperse glandulosae, caulomata subpilosa superne subcana inferne subfloccosa, pedunculi parce glandulosi. Ligulae saturate luteae apice subglabrae, stylus obscurus, achenia subatra. Subsp. derivata a *H. dentato* ssp. *dentatiformi*, habitu etiam *H. nigrescens* Willd. haud parum revocans.

Crescit in alpinis calcareis inter 14—2000 m. Tirolia: Innsbruck: Frau Hitt et Höttinger Alpe (Murr), Ahrntal (Treffer); Vorarlbergia: in iugo Arlberg supra Stuben (Murr); Bavaria: in m. Schachen pr. Partenkirchen (Murr); Helvetia: in m. Windgaelle versus Mettener Bützli (Correns), Curfirsten (Bruegger).

Variat β . **Montafonense** Murr, in Herb. Kaeser (1899), et in Koch Syn. (1901) p. 1798. Involucrum 10—12 mm l. \pm ovatum, squamae acutae ut caulis et folia magis pilosae mediocriter v. dense floccosae, pedunculi tomentosi, caulis usque ad basin floccosus; capitula 2—3 (—4), acladium 20—25 mm, involucra pedunculique sparsim v. mediocriter glandulosa. — Helvetia orientalis: Kistenstöckli, Piz Dado, Griestal (Correns); Vorarlbergia: Gamperdonatal supra St. Rochus (Murr).

Tab. 41, Fig. A. 1—4. *H. incisum* Hoppe ssp. *Hittense* Murr (e iugo Arlberg supra Stuben, leg. Murr). 1. Squama (apex). 2. Squama. 3. Pedunculus sub involucro. 4. Achaenium.

Subspecies **pseudomurrianum** Zahn, in Koch Syn. (1901) p. 1798; *H. Murrianum* A.-T. et Briq., Bull. Herb. Boissier II (1894) p. 629, non A.-T. in litt. ad Murr (1890), nec Murr, in Progr. Innsbr. Realschule (1891) p. 55. — Caulis 15—20 cm altus. Folia rosularia 3—6 petiolata, exteriora ovata obtusiuscula v. oblongo-lanceolata acuminata acuta, in petiolum abrupte v. sensim attenuata argute serrato-dentata viridia, caulina 1 (—2) lanceolata utrimque attenuata cuspidata paucidentata, summum saepissime lineare v. subulatum. Inflorescentia monocephala rarius furcata dicephala, acladium c. $\frac{1}{3}$ totius caulis exhibens. Involucrum 12—13 mm c. longum late ovatum demum depressum; squamae subangustae longe acuminatae acutae obscurae fere immarginatae; bractae c. 2 subulatae. Pili involucri numerosi 1—2 mm longi albi basi obscuri, caulomata mediocriter pilosa, 1—2,5 mm, folia supra subglabra in margine et subtus molliter subpilosa, 1—1,5 mm, petioli breviter subvillosi. Glandulae in involucro subsolitariae, pedunculi fere eglandulosi. Flocci involucri subnumerosi, pedunculi superne obscure cani, caulis multifloccus basin versus effloccosus, folium caulinum subtus in nervo mediano subfloccosum. Flores saturate lutei, ligulae apice fere glabrae, stylus obscurus, achenia subatra.

Crescit in alpinis calcareis Sabaudiae (Briquet), Tiroliae: Ahrntal (Treffer), Val di Ledro (Porta), Carinthiae: Alpe Klein-Kordin (R. de Benz).

Tab. 41, Fig. B. 5—8. *H. incisum* Hoppe ssp. *pseudomurrianum* Zahn (e alp. Kl.-Kordin, leg. R. de Benz).

Grex *Trachselianum*.

Subspecies **porrectiforme** Murr. Caulis ad 35 cm altus subtenuis erectus subflexuosus subtiliter striatus phyllopodus. Folia rosularia complura \pm longe petiolata, exteriora minora ovata v. elliptica apice rotundata v. acutiuscula basi truncata v. subcuneata, interiora elliptico-lanceolata breviter acuta v. acuta, dentata v. irregulariter grosse dentata, exteriora saepe denticulata, omnia viridia subglaucescentia papyracea; caulina 1—2 remota subsessilia, inferius radicalibus simile saepe basin versus angustatum subpetiolatum, superius lanceolatum v. lineare. Inflorescentia alte furcata 1—2 (—4) cephalae; acladium 3—5 cm longum; rami primarii (0—) 1 (—2) remoti 1 (—2) cephalae. Involucrum 10—12 mm longum ovatum demum subdepressum; squamae subangustae acuminatae acutae, intimae acutissimae, exteriores sub-

angustiores, omnes atrovirides dilutius virideque marginatae. Bracteae ca. 3 subulatae. Pili in involucrio modice numerosi diluti 1—2 mm longi, caulomata subpilosa, 1—3 mm, folia supra glabra subtus subpilosa, in margine petioloque ut in nervo dorsali subdensius pilosa, 1—2,5 mm. Glandulae in involucrio valde dispersae, in pedunculis solitariae. Flocci involucri basin versus subnumerosi, pedunculi superne canotomentosi inferne subfloccosi, caulis superne subfloccosus inferne effloccosus, folia effloccosa. Flores saturate lutei, ligulae apice glabrae; stylus obscurus. Achaenia fere atra 3,5—4 mm longa. Ex huc subspecie et *H. villosa* vel dentato *H. Hoettingense* Murr ortum esse videtur.

Crescit in alpidis calcareis Tiroliae: Hoettinger Alpe versus iugum „Sattel“ (detex. et leg. J. Murr).

Tab. 42, Fig. A. 1—4. *H. incisum* Hoppe ssp. *porrectiforme* Murr (e loc. class.). 1. Dentes ligularum. 2. Squama. 3. Pedunculus sub involucrio. 4. Achaenium.

Subspecies ***rhoeadifolium*** A. Kerner in sched. (1873) et apud Zahn, in Koch Synopsis (1901) p. 1799. — Caulis (20—) 30—40 cm altus subtenuis subflexuosus subtiliter striatus saepe subascendens phyllopodus. Folia rosularia complura mediocriter petiolata, exteriora obovata spathulata obtusa mucronulata, interiora oblongo-lanceolata v. lanceolata ± acuta, omnia in petiolum ± longe decurrentia denticulata v. basin versus dentata subsinuata, dilute viridia glaucescentia saepe subtenuia; caulina 0—2 lanceolata v. linearia, inferius saepe denticulata. Inflorescentia altefurcata 1—3 (—8) cephalae; acladium 4—8 cm ($-\frac{1}{2}$ — $\frac{2}{3}$ totius caulis) longum; rami primarii 0—2 saepe valde remoti monocephali v. simpliciter ramosi. Involucrium 12—14 mm longum ovatum demum subglobosum; squamae angustae acutissimae obscurae, marginem versus obscure virides. Pili involucri modice numerosi v. sat densi diluti, in pedunculis subnumerosi, caulis fere epilosus, folia supra glabra subtus praecipue in nervo dorsali ut etiam in margine petioloque molliter subpilosa, 1—3 mm. Glandulae involucri pedunculique subnulli. Flocci in involucrio numerosi v. sat densi, pedunculi superne cani inferne multiflocci, caulis multifloccus basin versus saepissime subfloccosus, folia caulina in nervo dorsali parce floccosa. Flores lutei, ligulae apice glabrae; stylus obscurus. Achaenia fere atra, 3,5—4 mm longa.

Crescit in alpidis calcareis Tiroliae: Gamsschrofen an der Wasenwand in v. Gschnitz (A. Kerner), in m. Platzerberg p. Gossensass 21—2300 m (Huter); Helvetiae: in alpe Braunwaldalpe p. Linthtal (Bernoulli).

Tab. 42, Fig. B. 5—9. *H. incisum* Hoppe ssp. *rhoeadifolium* A. Kerner (e m. Platzerberg p. Gossensass, leg. J. Murr). 5. Dentes ligularum. 6. Squama exterior. 7. Squama interior. 8. Pedunculus sub involucrio. 9. Portio fol. caul. pars aversa.

Grex Incisum.

Subspecies ***laceridens*** Murr, apud Zahn in Koch Synopsis (1901) p. 1800, et in sched. — Caulis 20—50 cm altus subflexuosus subtiliter striatus erectus gracilis phyllopodus. Folia rosularia complura longe petiolata ovata v. oblongo-lanceolata, exteriora basi rotundata v. truncata apice subobtusata, interiora in petiolum ± breviter angustata acutiuscula v. acuta, omnia denticulata v. ± grosse dentata v. incisa dentibus saepe in petiolum decurrentis, ± saturate viridia subglaucescentia mollia v. subpapyracea; caulinum 0—1 lanceolatum dentatum v. lineare. Inflorescentia ± determinata 2—5 (—10) cephalae; acladium 10—30 (—100) mm longum; rami primarii 1—4 (—6), infimi ± remoti monocephali v. simpliciter tripliciterque ramosi. Involucrium 10—12 mm longum ovatum; squamae angustae acutae obscurae viridi-

marginatae. Bractee 2—3 subulatae. Pili involucri modice numerosi breves, pedunculi superne subpilosi inferne minus pilosi, caulis superne fere epilosus, inferne subpilosus, folia supra fere glabra v. parcepilosa, subtus submodice breviterque pilosa, in nervo dorsali margineque ut in petiolo densius breviter pilosa. Glandulae involucri pedunculique modice numerosae. Flocci involucri modice numerosi v. numerosissimi, pedunculi canotomentosi, caulis superne multifloccus basin versus calvus. Flores saturate lutei v. aurei, ligulae apice glabrae; stylus subluteus demum fuscescens. Achaenia atra 3,5—3,8 mm longa.

Crescit in alpibus calcareis Tiroliae: In m. Platzerberg p. Gossensass (Murr), Riedberg, Zeragalpe, Daxspitz (Huter), St. Jakob in v. Ahrn (Treffer); Carinthiae: Fischbachalp p. Raibl (Huter).

Variat: b) *subrhoeadifolium* Murr, foliis rosularibus oblongis vel ovatis apice obtusis vel obtusissimis \pm undulate dentatis; originem ducit ab *H. rhoeadifolio* Kerner.

Tab. 43. *H. incisum* Hoppe ssp. *laceridens* Murr (e m. Platzerberg). 1. Dentes ligularum. 2, 3. Squamae. 4. Pedunculus sub involucrio. 5. Achaenium. 6. Folia rosularia var. *subrhoeadifolii* Murr (ex eodem loco).

Subspecies **humiliforme** Murr, apud Zahn in Koch Syn. (1901) p. 1801. — Caulis (15—) 20—30 cm altus erectus (saepe valde) flexuosus \pm striatus phyllopodus. Folia rosularia complura brevius longiusve petiolata ovata elliptica v. oblonga obtusa v. obtusissima interdum acutiuscula basi truncata v. subdecurrentia saepe subcordata, grosse et late dentata v. praecipue basin versus profunde dentata v. sinuato-lobata more *H. humilis*, dentibus saepe in petiolum decurrentis; caulinum 0—1 lineare v. longe subulatum; omnia dilute viridia subglaucescentia mollia. Inflorescentia alte furcata 1—4 cephalae; acladium (12—30—80 mm; rami primarii 0—3 remoti 1— (rarissime 2—) cephalae. Involucrum 12—15 mm longum ovatum demum depressum; squamae angustae acutissimae obscure cinereae. Bractee 1—2 subulatae. Pili involucri subnumerosi albidi 1—2 mm longi, pedunculi breviter molliterque subpilosi, caulis superne parcepilosus, basin versus subpilosus, folia supra subpilosa v. calvescentia subtus subpilosa, in nervo mediano petioloque pilis albis ad 4 mm longis molliter subvillosa, in margine subdense pilosa. Glandulae involucri pedunculique subnullae v. dispersae. Flocci involucri numerosi v. densi, pedunculi canotomentosi, caulis superne dense floccosus inferne usque ad basin subfloccosus, folia rosularia interiora et caulinum in nervo dorsali subfloccosa. Flores lutei, ligulae apice glabrae; stylus luteus, demum saepe subfuscescens. Achaenia atra.

Crescit in alpibus calcareis Tiroliae: Platzerberg iuxta iugum Brenner (Murr), Höttinger Alpe pr. Innsbruck, in iugo Lavatsch p. Hall (Murr), inter iugum Rolle et Cimon della Pala (A. et K. Touton); Helvetiae: Sertigtal p. Davos (Zahn).

Variat: β) **supracalvum** Zahn. Folia supra glabra. Helvetia: Col des Essets (Favrat), La Hausseresse p. Château-d'Oex (Leresche), Wandfluh p. Abläntschen (Schroeter et Wilczek), Waldnachtalp iuxta iugum Surenen (Gisler), Flims (Bernoulli), Val Tuors (Schröter), Strelapass (Bruegger), Sertigtal (Zahn), Albula (Bruegger), Valettapass (Favrat); Italia: Grignadi Mandello (Gysperger).

Tab. 44, Fig. A. 1—4. *H. incisum* Hoppe ssp. *humiliforme* Murr [α] *genuinum* Zahn, Monogr. Hier. helv. ined.] (e iugo Lavatsch). 1. Dentes ligularum. 2. Squama. 3. Pedunculus sub involucrio. 4. Limbi folii portio.

Subspecies **Gelmianum** Sarnthein, in Oesterr. bot. Zeitschr. (1894) p. 275; *H. nivale* Gelmi, Prospetto Fl. Trentino (1893) p. 106, nec Froel. Inter *H. dentatum* et *H. senile*

A. Kerner. Caulis 15—25 cm altus erectus subflexuosus subtiliter striatus subtenuis. Folia rosularia complura elliptica v. oblonga in petiolum brevius longius attenuata obtusiuscula v. acuta, basin versus grosse et late sinuato-dentata valde glaucescentia; caulinum 0—1 lineare. Inflorescentia altefurcata 1—2 cephalae; acladium 3—8 cm longum; rami primarii 0—1 monocephali. Involucrum 12—15 mm longum ovatum demum subglobosum, squamae angustae acutae. Bractee 4—7 subulatae in squamas decresecentes. Pili involucri subnumerosi, caulomata breviter subvillosa, folia supra glabra, in margine petioloque dense pilosa v. subvillosa. Glandulae subnullae. Flocci involucri inferne subnumerosi, pedunculi cani. Flores lutei, ligulae apice glabrae; stylus fuscus; achaenia fere atra.

Crescit in alpibus calc. Tiroliae australis: in montibus Brenta (leg. Gelmi).

Tab. 44, Fig. B. 5, 6. *H. incisum* Hoppe ssp. *Gelmianum* Saroth. (sec. spec. Gelmianum e herb. Kaeseri!). 5. Squama. 6. Pedunculus sub involucri.

Subspecies **tephrochlorum** Zahn, in Allgem. bot. Zeitschrift (1901) p. 115; *H. incisum* Hoppe ssp. *leptopogon* M. et Z., in Oesterr. bot. Zeitschrift (1902) p. 389, nec Ehrenberg. Caulis 12—35 cm altus erectus v. ascendens subtenuis v. gracilis subflexuosus phyllopodus. Folia rosularia c. 6 petiolata ovata elliptica v. oblonga v. oblongo-lanceolata rotundata-obtusa v. acutiuscula (interiora acuta) denticulata basin versus dentata v. satis grosse dentata, saturate viridia subglaucescentia, subtus albido-viridia, subrigida; caulinum 0—1 lineari-lanceolatum valde elongatum v. lineare. Inflorescentia saepissime altefurcata 2—4 cephalae; acladium 2—8 cm ($-\frac{1}{2}$ totius caulis) longum; rami primarii 1—2 (-3) remoti monocephali oblique erecti. Involucrum 13—14 mm longum ventricosum-ovatum demum depressum; squamae angustae longe acuminatae acutiusculae v. acutissimae obscurae, intimae conspicue diluteque marginatae. Bractee 2—3 subulatae. Pili involucri albi sat numerosi 2—3 mm longi, pedunculi superne modice breviterque albido-pilosi, caulis disperse v. modice pilosus, folia utrimque breviter molliterque subpilosa, 1—2 mm, in margine petioloque ut in nervo dorsali pilis albidis breviter subvillosa, supra saepe glabrescentia submaculata. Glandulae in involucri subnullae, in pedunculis solitariae. Flocci in involucri modice numerosi, pedunculi albido-cani, caulis superne multifloccosus, folia in nervo dorsali \pm floccosa. Flores saturate lutei, ligulae apice subglabrae; stylus luteus. Achaenia atra.

Crescit in alpibus calcareis Italiae: m. Pollino 19—2000 m, praecipue in cavis rupium ad Polinello (Rigo).

Exsiccata: Rigo, iter ital. V (1898) no. 393!

Tab. 44, Fig. C. 7—8. *H. incisum* Hoppe ssp. *tephrochlorum* Zahn (e loc. class.). 7. Squama. 8. Pedunculus sub involucri.

29. Hieracium subspeciosum Naeg. in litt., apud N. P., Hierac. Mitteleuropas II p. 147 (1886); Prantl, Fl. v. Bayern (1884) p. 534; *H. speciosum* Koch, Syn. ed. 2 II p. 518 pp.; Fries, Epicr. (1862) p. 66 pp.; Gren. Godr., Fl. France II (1850) p. 359; non Hornem. nec Reichb. f., Ic. XIX tab. 205 f. 2.

Dispositio gregum:

- a. Folia caulina pauca cito decresecentia, inflorescentia squarrosa.
- a. Patulum N. P. II p. 149. Habitus *H. silvatici*, involucrum *H. villosi*.
- b. *Oxyodon* Zahn, in Koch Syn. (1901) p. 1803; *Pseudorupestre* N. P. l. c. Habitus et involucrum ut in *H. glauco*.

- b. Folia caulina complura \pm sensim decrescentia, inflorescentia multo minus squarrosa.
- c. *Glaucoopsis* N. P. I c. Habitus *H. bupleuroidis*, involucrium *H. glauci*; planta basin versus conspicue dense pilosa.
- d. *Crinisquamum* N. P. I c. Habitus *H. villosi*, involucrio *H. villosiceps* imitans; planta utrimque fere aequaliter pilosa.
- e. *Subspeciosum* N. P. I c. Habitus *H. dentati* v. *H. glauci*, sed fere *epilosum*, involucrium *H. glabrati* v. *dentati*; planta basin versus non longius pilosa.

a. *Patulum*.

Subspecies *patulum* N. P. II p. 151. Caulis ad 32 cm altus gracilis striatus erectus phyllopodus. Folia rosularia numerosa petiolata lanceolata denticulata v. grosse dentata acuta mucronata; caulina c. 4 cito decrescentia lanceolata basin versus attenuata, summum fere lineare; omnia glauca rigidiuscula. Inflorescentia furcata indeterminata 2—5 (—10) cephalae; acladium 4—10 cm longum; rami primarii 1—3 (—5) valde remoti graciles oblique erecti monocephali v. simpliciter ramosi. Involucrium 11—22 mm longum ovatum demum \pm globosum; squamae latiusculae lanceolatae longe acuminatae acutissimae obscurae canofloccosae. Bractae c. 3 subulatae. Pili in involucrio sat densi diluti 1,5 mm longi, caulomata utrimque disperse pilosa (1,5—2,5 mm), folia supra glabra v. fere glabra, subtus \pm disperse molliterque pilosa (2—3 mm), petiolus subpilosus. Glandulae nullae v. solitariae. Involucrium subcanofloccosum, pedunculi cani, caulis usque ad basin plurifloccosus, folia effloccosa. Flores dilute flavi, ligulae glabrae; stylus fuscescens. Achaenia brunea 3—3,3 mm longa.

Crescit in alpinis calcareis Tiroliae: Neuprags (Naeg.); Carinthiae: Alpe Selenitza (Jabornegg). Predil (Huter), Wischbergalpe (v. Benz); Stiriae: Zeyritzkampel p. Kalwang (Correns, Khék, primo pro *H. Arolae* Murr habitum); Helvetiae: Grosser Mythen (Bamberger), Château-d'Oex (Leresche), Solalex (Favrat).

Variat: β ***pseudosixtinum*** Zahn; *H. sixtinum* A.-T. in herb. Chenevard. Folia tenuia subglaucescentia acute serrato-dentata, exteriora minora oblongo-lanceolata obtusa, caulina saepe sensim decrescentia. — Helvetia: Colla supra Fusio (Chenevard, Zahn), Solalex-Anzeindaz (Zahn).

Tab. 45, Fig. A. 1—2. *H. subspeciosum* Naeg. ssp. *patulum* N. P. β ***pseudosixtinum*** Zahn (inter Colla et Fusio, leg. ipse). 1. Squama. 2. Pedunculus sub involucrio.

Subspecies *dolichocephalum* N. P. II 152; *H. Jaborneggi* Pacher, in Pacher et Jaborn., Fl. Kärnth. I 2 p. 179 (1882). Caulis ad 32 cm altus gracilis parum flexuosus substriatus erectus phyllopodus. Folia rosularia complura breviter petiolata lanceolata acutissima denticulata; caulina 2—4 saepissime cito decrescentia inconspicua lanceolata; omnia glauca rigidiuscula. Inflorescentia monocephala v. furcata indeterminata 1—3 (—6) cephalae; acladium 3,5—8 cm longum; rami primarii 0—2 (—3) graciles monocephali. Involucrium 14—16 mm longum ovatum demum fere globosum; squamae satis angustae lineares longe acuminatae acutissimae atrovirides, extimae sublaevae, bractae 4—5 subulatae. Pili involucri densi diluti (1,5—2 mm), pedunculi subpilosi v. fere epilosus, caulis basin versus tantum subpilosus, rarius totus caulis subpilosus, 1—3 mm, folia supra glabra v. marginem versus disperse pilosa, subtus parcepilosa, in margine nervoque dorsali modice pilosa, 1,5—3 mm. Glandulae nullae, versus apicem squamarum rarissimae. Flocci involucri marginem squamarum versus mediocriter numerosi, pedunculi superne subcanotomentosi, inferne cito deminuti usque ad medium caulem descendentes. Flores lutei, ligulae glabrae; stylus luteus. Achaenia castanea v. atra, 3,5 mm longa.

Crescit in alpinis calcareis inter 800—1600 m; Helvetia: Nessli pr. Reidenbach in valle Simmental (Maurer); Butino in v. Camadra (Keller), Compietto-Olivone (Keller), inter Hinterrhein et Spluogen (Felix), supra Spluogen versus Stutzalpen (Naeg., Zahn), Sattental (Bruegger). Val Luzzone: All Sasso-Rifuggio, Cuolm p. Vanescha, Alpe Blengias p. Lumbrein, inter Safien et Glas (Steiger), „Schwarzwald“ pr. Jochalpe supra Churwalden (Bruegger), Samnaum (Muret, Kaeser), Alpe Choeglias iuxta Fimberpass (Bruegger); Tschingla in m. Walenstadterberg (Schinz), Appenzell versus Kamor 812 m (Naeg.), in m. Buetschli (Heer), in v. Seealp m. Saentis (Vetter), in m. Glaernisch (Heer); Algoviae: untere Seealp p. Oberstdorf (Schnizlein); Tiroliae: inter Hochfinsternmünz et Nauders (N. P.); Carinthiae: Bärental in montibus Karawanken (Jab., Benz).

Exsiccata: Hieracia Naegelianae no. 358, 359.

Tab. 45, Fig. B. 3. *H. subspeciosum* Naeg. ssp. *dolichocephalum* N. P. (e alpinis Stutzalpen supra p. Spluogen, leg. ipse). 3. Squama.

b. Oxyodon.

Subspecies **oxyodon** Fries, Epicrisis (1862) p. 90; *H. inclinatum* A.-T., Addit. à Monogr. (1879) p. 7. pp.; *H. Trachselianum* A.-T. in mult. herb., nec Christener!! *H. inclinatum* α . *subrupestre* A.-T., Hier. alp. franç. (1888) p. 22; *H. arenicola* A.-T. l. c., non Godet! *H. rupestre* β . *pluriflorum* Gaud., Fl. helv. V p. 92; Gaud.-Monnard, Syn. fl. helv. (1836) p. 682; *H. rupestre* Thomas, Schleicher, Leresche exs.; *H. saxetanum* Fries, Hier. europ. exsicc. no. 47; *H. saxatile* et *incisum* Schleich. exs.; *H. subspeciosum* ssp. *pseudorupestre* N. P. II p. 153. Caulis 10—30 (—35) cm altus fere epilosus v. disperse pilosus, fere usque ad basin subfloccosus erectus saepe subflexuosus substriatus phyllopodus. Folia rosularia numerosa breviter petiolata v. basin versus attenuata late v. anguste lanceolata acutiuscula plerumque acuta, denticulata saepe dentata vel (saepe inaequaliter) grosse serrato-dentata; caulina 2—3, infimum radicalibus simile, reliqua linearia elongata; omnia \pm glauca rigida utrinque glabra v. saepissime subtus subpilosa, in margine nervoque dorsali ut etiam in petiolo densius et longius pilosa (1—3—5 mm). Inflorescentia altefurcata v. furcata (1—) 2—3 (—5) cephalae; accladium 2—7 cm longum; rami primarii 1—2 (—3) valde remoti monocephali v. simpliciter ramosi oblique erecti saepe subsquarrosi. Involucrum (10—) 11—12 mm longum ovato-globosum subcanotomentosum; squamae sublatiusculae longe acuminatae apice obtusiusculae v. obtusae obscurae, dilute submarginatae, disperse v. modice et breviter pilosae (1 mm), disperse v. modice floccosae, marginem versus canotomentosae, pedunculi superne disperse vel modice pilosi canotomentosi, inferne multifloccosi. Glandulae involucri subnullae, pedunculi superne saepe glandulis nonnullis praediti. Floressaturate lutei, ligulae apice glabrae; stylus \pm obscurus; achaenia fere atra.

Crescit in alpinis calcareis Helvetiae, Italiae septentrionalis.

Variat: $\alphapseudorupestre N. P. l. c. Glandulae fere nullae, caulis ad 20 cm altus 1—3 cephalus, involucrum 10—11 mm longum.$

a) **normale** N. P. Caulis subpilosus. — Helvetia: Anzeindaz (Thomas, Schleicher), Sembrancher (Lagger), Eisboden ad ped. m. Wetterhorn (Christener), Berguen, Val Chamuera (Muret).

b) **calvescens** N. P. Caulis epilosus ad 30 cm altus, folia in nervo dorsali petioloque \pm dense pilosa (3—5 mm). — Helvetia: Visp (Wolf), Surenenpass (Gisler), in den Zügen p. Davos (v. Tavel), supra Alveneu (v. Salis), Piz Alv (Schroeter), Fusio (Zahn).

Exsiccata: Hierac. Naegel. no. 360 (α a).

β) **oxyodon** Fries l. c.; *H. Gisleri* Lagg. in sched.! *H. subspeciosum* ssp. *subrupestre* N. P. II p. 153! Involucra et pedunculi glandulis solitariis conspicuis praedita, caulis plus 30 cm altus, involucrum 11—13 mm longum, capitula 2—3 (—5). Non infrequens.

- a) *normale* Zahn 1) *verum* Zahn. Folia rosularia lanceolata grosse dentata. Chambéry (Huguenin), Vallées de Cogne (Wilczek); Helvetia: Aigle-le Sepey (Muret), Alpes de Bex (Thomas), Sanetsch (Rapin), Combe d'Arbaz (Wolf), Alpes de Château-d'Oex (Leresche), Reidigalpe v. Simmental (Maurer), Ueschinental supra Kandersteg (A. et K. Touton), Vallée de Bagne (Favrat), Simplon (Wolf), Binntäler (Bernoulli), Eginental (Lagger); Surenenalp (Gisler), Grosser Mythen (Favrat); Val Piora (Bernoulli), Naretpass (Zahn), Fusio (Chenevard), V. Piumogna, Pizzo dell Ambro, Alpe Robiei, Sevinera - Zotto (Chenevard), S. Giorgio (Muret), Mte Salvatore (Muret), Alpe di Cadrio (Leresche), Caprino, Mendrisio, Melide, Canzo (Favrat), Mte Generoso (Schroeter), Menaggio-Porlezza (Bruegger), Grigna p. Lecco (Wilcz.); Hinterrhein (Bruegger), Splügen (Naeg.), Landquart (Muret), Val Chamuera, Piz Alv (Braun, Favrat), Ofenpass: V. Mora, Punt dell Gallo (Brunies).
- 2) *denticulatum* Zahn. Folia lanceolata elongata denticulata. — Helvetia: Parey p. Château-d'Oex (Leresche), Fusio (Zahn).
- 3) *lacciniatum* Zahn. Folia (saepe conspicua) profunde lobata v. lacciniata (caulinum infimum radicalibus simile). — Anzeindaz Binntal, Vulpera p. Tarasp (Muret).
- 4) *angustifolium* Zahn = *oxyodon-bupleuroides*. Folia omnia lineari-lanceolata subdenticulata. — Eginental (Favrat), Mte Salvatore, Liona (Chenevard).
- 5) *latifolium* Zahn. Folia maiora ovato-lanceolata; caulina evoluta conspicua. — Binntal (A. et K. Touton), Simplon (Favre).
- b) *subfloccosum* Zahn. Folia parcepilosa subtus in nervo mediano (interiora in tota parte aversa) \pm floccosa, exteriora saepe ovato-lanceolata; acladium $\frac{1}{3}$ — $\frac{1}{2}$ totius caulis. — Binntal: Saffischmatt, Kuhstaffel (Kneucker, A. et K. Touton).

Tab. 46, Fig. A. 1—3. *H. subspeciosum* Naeg. ssp. *oxyodon* Fries β) *oxyodon* a) *normale* 1) *verum* Zahn (e valle Eginen, loco class. Friesiano, leg. ipse). 1, 2. Squamae. 3. Pedunculus sub involucro.

Subspecies **inclinatum** A.-T., Addit. à Monogr. (1879) p. 7. Caulis tenuis valde squarroso-ramosus ramis patentibus, subepilosus usque ad basin floccosus. Folia rosularia late v. anguste lanceolata subtenuia dilute viridia glauca acute denticulata v. serrato-dentata. Rami primarii 1—3 (—5) oblique patentes tenues valde remoti, capitula 3—5 (—10). Involucra 9—10 mm longa cum pedunculis sparse glandulifera. Reliqua prioris.

Crescit in alpihus calcareis in alluvionibus sabulosis inter 600—2000 m. Vallées de Cogne (Vaccari); Vallée de Bagne (Favrat), Gueuroz (Wolf), Gamsen (Favre), Visp-Tourtemagne (Chenevard), Brig (Favre), Gemmi ob Leuk (Jaquet), Lauwigraben p. Binn (Besse),

Algabi (Wolf); Mte Salvatore (Kückenthal), ad rip. fl. Cossone pr. Lugano (Favrat), Vezio (Chenevard).

Tab. 46, Fig. B. 4—7. *H. subspeciosum* Naeg. ssp. *inclinatum* A.-T. (e iugo Gemmi, leg. Jaquet). 4. Dentes ligularum. 5. Squama. 6. Pedunculus sub involucri. 7. Limbi folii caulini portio, pars aversa.

Grex *Glaucopsis*.

Subspecies **Delasoiei** Lager in sched.!: Delasoie, Bull. soc. Murith. I p. 21 (nomen), Gremli, Exk.-Flora d. Schweiz ed. 4 (1881) p. 274; Burnat et Gremli, Catol. Hierac. alp. marit. (1883) p. 10, 54, 56; *H. glaucopsis* Fries, Epicr. p. 70 pp.; *H. arenicola* Godet, apud Gremli, Neue Beitr. III (1880) et Exk.-Fl. d. Schweiz I. c.; Burn. et Gremli I. c. p. 56; *H. inclinatum* v. *subrupestre* A.-T. I. c. pp. Caulis 10—40 (—48) cm subflexuosus saepe subfractiflexus saepissime effloccosus pilis dispersis horizontaliter patentibus basin versus parum densioribus praeditus. Folia rosularia \pm distincte petiolata lanceolata saepe subundulata subplicata acuta denticulata v. inaequaliter grosse dentata, supra glabra, subtus et in petiolis modice pilosa (3—4 mm); caulina (1—) 3—4 cito decrescentia v. omnia parva lanceolata v. linearia glauca rigidiuscula interdum \pm evoluta subconspicua. Acladium 1—6 cm longum; rami primarii (1—) 2—3 (—4) valde remoti squarrosi monocephali v. simpliciter ramosi, capitula (1—) 2—4 (—7). Involucrium 10—12 mm longum demum depressum; squamae sublatae lanceolatae acutiusculae intimae obtusae obscurae, late floccoso- (intimae viridi-) marginatae modice v. sat dense pilosae, 1 mm, parce minuteque glandulosae, pedunculi apice tantum floccosi et saepe pilis glandulisque solitariis praediti. Stylus luteus, ligulae luteae apice glabrae; achaenia fere atra.

Hieracio chondrilloidi Vill., Hist. pl. Dauph. III p. 114, valde affinis.

Crescit in sabulosis calcareis Helvetiae: Vallée de Bagne: Fionney (Muret), Bonatchesse, Sembrancher (Delasoie), Orsières (Bernoulli), La Rappaz (Favre), Digue du Bévieux p. Bex (Muret), La Hausseresse p. Château d'Oex (Leresche), in alluvionibus fl. Saane p. Morlon (Cottet, Lager).

Tab. 47. 1—8. *H. subspeciosum* Naeg. ssp. *Delasoiei* Lager (p. Sembrancher, leg. Wolf). 1. Dentes ligularum. 2. Squama exterior. 3, 4. Squamae interiores. 5. Pedunculus sub involucri. 6. Achaenium. 7. Pilus petioli folii. 8. Pilus pappi.

Grex *Subspeciosum*.

Subspecies **subspeciosum** Naeg. I. c. Caulis ad 32 (—40) cm altus gracilis parum flexuosus v. saepius subfractiflexus striatus phyllopodus. Folia rosularia saepius complura petiolata lanceolata vel oblongo-lanceolata fere integerrima v. \pm denticulata; caulina 4—5 sensim decrescentia lanceolata, etiam infima fere sessilia; omnia glauca sat rigida. Inflorescentia altefurcata fere indeterminata 2—4 cephalae; acladium 2,5—7 cm longum; rami primarii 1—2 remoti graciles oblique patentibus monocephali interdum simpliciter ramosi. Involucrium 12—13 mm longum \pm globosum; squamae sublatiusculae longe acuminatae, extimae acutissimae sublaevae, intimae obtusiusculae v. obtusae obscurae margine dilutiores. Bractae 5—6 \pm subulatae. Pili involucri modice numerosi subobscuri, 1 mm, caulomata epilosa v. caulis basin versus tantum parce pilosus, folia supra glabra subtus disperse v. modice pilosa, in nervo mediano margineque sat dense pilosa (1—3 mm l.). Glandulae in involucrio tantum dispersae. Flocci involucri dispersi v. modice numerosi, in margine squamarum sat densi, caulomata superne dense floccosa, inferne usque ad $\frac{1}{3}$ totius caulis

subfloccosa, folia caulina superiora utrinque v. tantum subtus subfloccosa, folia inferiora in nervo dorsali subfloccosa v. in tota parte aversa disperse floccosa. Flores subdilute lutei, ligulae glabrae; stylus obscurus. Achaenia obscure brunea 3,5 mm longa.

Crescit in alpinis calcareis Bavariae, Tiroliae, Stiriae, Helvetiae inter 11—1900 m.

Variat: $\alphagenuinum N. P. II p. 156. Squamae interiores \pm obtusae. — Bavaria: Mult. loc. pr. Schliersee (Naeg.), Schinder pr. Tegernsee (Naeg.), mult. loc. p. Partenkirchen, Isarauen (N. P.), Mittewald-Ellmau, f. e basi ramosa (Murr et Poell); Tirolia: Leutasch, Scharnitz (A. Kerner), Hinterautal (Murr), Halltal p. Innsbruck (Naeg.), in m. Solstein p. Innsbruck (Heufler, Evers, Murr), Hoettinger Alpe (Murr), Walderalpe p. Hall (Gremblach); Carinthia: in m. Zeyritzkampel p. Kalwang (Khek).$

β) **oxylepium** N. P. II p. 157. Squamae angustae acutissimae. — Bavaria: Rotwand (Naeg.), Spitzingsee (Peter).

γ) **cuneatum** N. P. I. c.; H. *dentatum* γ) floccosum et δ) subglaberrimum Sendtner in sched. — Involucrum 14—16 mm longum, squamae acutissimae, interiores acutiusculae. Folia basin versus longe attenuata cuneiformia. Achaenia atra 4,2 mm longa. — Bavaria: In alpinis p. Oberstdorf (Caflich, Molendo), Geiglstein (Rauschenberger); Helvetia: Grosser Mythen (Naeg.), Praz fleuri p. Montbovon (Cottet); Tirolia: Finstermuenz (Naeg.).

Exsiccata: Hierac. Naegel. 361, 362.

Tab. 48. 1—7. *Hieracium subspicosum* Naeg. ssp. *subspicosum* Naeg. α) **genuinum** N. P. (e v. Halltal, leg. Murr). 1. Dentes ligularum. 2. Squama exterior. 3. Squama interior. 4. Pedunculus sub involucri. 5. Achaenium. 6. Folium caulinum medium, pars aversa (portio). 7. Pilus squamae.

Subspecies **comolepium** N. P., Hier. Mittel-Europ. II p. 158. — Caulis ad 35 cm altus crassiusculus v. gracilis parum flexuosus striatus phyllopodus. Folia rosularia numerosa saepissime breviter petiolata oblonga v. lanceolata in petiolum attenuata acutiuscula mucronata v. acuta \pm serrato-dentata; caulina 5—7 subsensim decrescentia sessilia basin versus attenuata latiora v. elliptica, summa integerrima; omnia subglauescentia subrigida interdum submolliora, haud raro \pm maculata maculis confluentibus. Inflorescentia alte v. profunde furcata indeterminata (1—) 2—4 cephala; acladium 3,5—6,5 (—14) cm longum; rami primarii 0—3 remoti graciles oblique erecti monocephali. Involucrum 15—16 mm longum globosum, squamae latiusculae lineares longe acuminatae acutae nigrae margine dilutae et floccosae, exteriores laxae. Bractee c. 5 subulatae. Pili in involucri numerosi albi 2,5 mm longi, caulomata superne pilis modice numerosis v. dispersis dilutis 2—3 mm longis inferne dispersis v. sparsis basin versus sensim numerosioribus obsita, folia supra epilosa, subtus basin et apicem versus disperse pilosa, in margine pilis 2—3 mm l., in nervo dorsali ad 8 mm l. subnumerosis v. densis obsita. Glandulae nullae, apicem squamarum versus tantum solitariae minutissimae. Flocci: squamae margine dense floccosae, pedunculi sub involucri canotomentosi inferne valde deminute floccosi, caulis et folia effloccosa. Flores dilute lutei, ligulae apice glabrae; stylus luteus v. fuscescens; achaenia saturate brunea 4 mm longa.

Crescit in alpinis calc. Helvetiae, Vorarlbergiae, Algoviae, Bavariae australis, Tiroliae. — Flor. Jul.-Aug.

Variat: α) **genuinum** Zahn.

- 1) normale Zahn. — Helvetia: Allières (Lagg.), Zermatt (Spencer, Wolf); Piz Padella p. Samaden 1820 m (Naegeli, Sammaun (Kaeser); Algovia: Sperrbachschlucht (Cafisch); Bavaria austr.: Spitzingsee 1100 m, Oberspitzingalpe p. Schliersee 1490 m (Naeg.); Tirolia: Vennertal iuxta iugum Brenner 1690—1790 m (Naeg.) Lanersbach in v. Tux (Zimmerer), Hoettinger Alpe p. Innsbruck (Murr); Vinstgau (Tappeiner)
- 2) brevopilum Zahn. Pili ubique minus numerosi et (praecipue in involucri) minus longi. — Helvetia: Alpe Uglix p. Berguen (Peter), S. Bernardino 1450 m (Braun); Algovia: Gerstrubental (Caf.); Tirolia: Vennertal.

β) **Padellae** Tout. et Zahn. Caulis utrimque longe pilosus.

- 1) normale Zahn. Folia oblonga v. late lanceolata. — Helvetia: Piz Padella p. Samaden 1800—1885 m (Naeg.-Pet., Tout.); Vorarlbergia: Oefenpass (N. P.), Alpe Unterfluh p. Dornbirn (Winder), Malbuntal (Richen); Bavaria: Jägerkamp p. Schliersee 1720 m (Peter).
- 2) angustifolium Zahn. Folia angusta glauca. — Tirolia: „Im hohen Winkel“ p. Baerenbadalpe 13—1620 m in v. Kaisertal p. Kufstein (Naeg.).

γ) **pulcherrimum** Arv.-T.; H. pulchrum v. pulcherrimum A.-T., apud Wilczek, Notes Hierac., in Bull. Soc. Murith. XXXI (1902) p. 99, et in sched.! — Folia fere anguste lanceolata, involucrium 16 mm longum, squamae angustae acutissimae. — Helvetia: Bonatchesse in v. Bagnetal (Miller)!

Exsiccata: Fries, Hier. europ. exs. no. 36; Doerfler, Herb. norm. cent. XXXI no. 3132 (sub nom. H. callianthum A.-T., leg. J. Murr).

Tab. 49, Fig. A. 1—3. *H. subspeciosum* Naeg. ssp. *comolepium* N. P. α) *genuinum*

- 1) normale Zahn (e monte Hoettinger Alpe p. Innsbruck, leg. J. Murr). 1. Apex ligularum.
2. Squama. 3. Pedunculus sub involucrio.

Subspecies **melanophaeum** N. P., Hier. Mittel-Europ. II p. 159; nec J. Murr, in Doerfler, herb. norm. cent. XXXI no. 3133. — Caulis ad 27 cm altus gracilis strictus v. paulum flexuosus striatu sphyllipodus. Folia rosularia 3—5 breviter petiolata v. basin versus tantum ± attenuata lanceolata acuta dentata v. denticulata, exteriora saepe acutiuscula mucronata; caulina 3—4 subsensim decrescentia sessilia basi attenuata v. (praecipue superiora) rotundata lanceolata denticulata; omnia glaucescentia mollia. Inflorescentia monocephala v. furcata indeterminata 2—3 cephalis; acladium 9—13 cm longum; rami primarii 0—2 valde remoti subgraciles suberecti monocephali. Involucrium 14—17 mm longum globosum; squamae latiusculae anguste lanceolatae longe acuminatae acutissimae nigro-virides. Bractee 3—4 lineares. Pili involucri densi diluti 2—3 mm longi, caulomata superne pilis dilutis basi atris mollibus sat numerosis inferne subdeminutis basin versus numerosioribus 1,5—3 mm longis oblecta, folia utrimque subpilosa, in margine et in nervo dorsali densius pilosa (pili 3—4 mm longi). Glandulae nullae, apicem squamarum versus sparsae. Flocci involucri subnulli, in squamarum margine sparsi, caulomata superne subcanotomentosa, usque ad medium subfloccosa. Flores saturate lutei, ligulae apice glabrae; stylus obscurus; achenia dilute brunea 3 mm l.

Crescit in alp. calc. Helvetiae, Tiroliae, Austriae inferioris. — Flor. Jul.-Aug.

Variat: 1) normale N. P. l. c. — Helvetia: In m. Kalkberg supra Spluegen 1950—2200 m (Naegeli); Tirolia: Vennertal iuxta iugum Brenner 1950—2110 m (Naeg.); Austria inferior: Dürrenstein (N. P.)

2) calvius N. P. l. c. p. 160. Folia caulina 4—6 subsensim decrescentia. Caulis ad 35 cm altus, acladium 4—8 cm longum. Involucrum 12—15 mm longum. Folia interdum supra fere pilosa, pili in caule basin versus ad 6 mm longi. Squamae magis lanceolatae, achaenia dilute rufo-brunea breviora. — Helvetia: Infra Kaltwassergletscher iuxta iugum Simplon 1885—2275 m (Naegeli), Kalkberg supra p. Spluegen.

Exsiccata: Hieracia Naegeliana no. 363 (normale).

Tab. 49, Fig. B. 4—6. *H. subspeciosum* Naeg. ssp. *melanophaeum* N. P. 1) normale N. P. (e m. Kalkberg supra pagum Spluegen, leg. ipse). 4. Squama. 5. Pedunculus sub involucro. 6. Folium caulinum, portio e parte aversa.

Subspecies **pseudoplantagineum** Zahn, in Schinz et Keller, Flora d. Schweiz ed. 2 II (1905) p. 297; *H. plantagineum* Arv.-T., apud Briquet, Notes crit., Bull. Soc. Murith. XXVIII (1900) p. 70; nec Arv.-T., Hier. alp. franç. (1888) p. 31; *H. Seringeanum* Arv.-T., in Wilczek, Notes Hierac., Bull. Soc. Murith. XXXI (1902) p. 102; non Zahn, in Koch Syn. (1901) p. 1899. — Caulis 10—40 cm altus gracilis saepe subflexuosus substriatus sparsim breviterque pilosus usque infra medium subfloccosus. Folia rosularia late lanceolata saepe longa ± longe petiolata, in petiolum longe attenuata glauca, in margine nervoque dorsali tantum sparsim pilosa, denticulata v. ± irregulariter grosse dentata mollia; caulina 3—4 lanceolata, in nervo dorsali saepissime subfloccosa. Inflorescentia laxa paniculata; acladium 1—2 cm longum, rami primarii (1—) 2—4 (—5) oblique erecti saepe simpliciter ramulosi, capitula (1—) 3—7 (—15). Involucrum 11—13 mm longum ovatum fere mediocriter breviterque pilosa, squamae angustae acutiusculae v. acutae, in marginibus sat dense floccosae v. leviter tomentosae, fere omnino eglandulosae. Pedunculi albidotomentosi eglandulosi epilosi. Ligulae saturate luteae apice glabrae; stylus obscurus; achaenia obscure brunea 3,8 mm longa.

Crescit in alpinis calc. Sabaud-Helvicis inter 1600—2050 m: Haut de Taney, Pic de Linleux, Cornettes de Bise, Col de Vernaz, Lac d'Ervin (Briquet); supra „zum Stein“ pr. Grindelwald (Bernoulli), in alpinis supra Bex: Lavaraz (Zahn). — Flor. Jul., Aug.

H. dentato ssp. *Ormontense* valde affine et verosimiliter = *villosum* < *bifidum* v. *dentatum-bifidum*.

Tab. 50, Fig. A. 1—4. *H. subspeciosum* Naeg. ssp. *pseudoplantagineum* Zahn (inter Les Echelles et alpem Haut de Taney 1700 m, leg. ipse). 1. Squama. 2. Pedunculus sub involucro. 3. Nervus dorsalis folii tertii caulini. 4. Achaenium.

Subspecies **calcicola** N. P. II p. 160; *H. inclinatum* b) *subspeciosum* Arv.-T., Hier. alp. fr. (1888) p. 22. — Caulis 4—6 dm altus gracilis subflexuosus strictus phyllopodus. Folia rosularia 3—5 longe petiolata, exteriora ± oblonga obtusa, reliqua lanceolata in petiolum longe attenuata acuta v. acutissima fere integerrima v. denticulata aut dentata v. grosse dentata; caulina 2—3 (—4) radicalibus conformia, subsensim v. cito decrescentia; omnia glaucescentia sat mollia. Inflorescentia altifurcata ± determinata (1—) 2—5 cephalae; acladium (1—) 3—6 cm longum, rami primarii (0—) 1—3 remoti graciles suboblique erecti, monocephali rarius simpliciter ramulosi. Involucrum 11—13 mm longum ovatum demum fere

globosum; squamae latiusculae lanceolatae sursum cito acuminatae acutiusculae v. acutae obscurae (nigro-virides; angustissime diluteque marginatae, exteriores sublaxae. Bracteae 3—4 sub involucrio confertae subulatae. Pili involucri sat numerosi diluti 1,5—2 mm longi, caulomata utrimque subpilosa (1,5—5 mm), folia supra epilosa v. apicem versus tantum disperse sparsimve pilosa, subtus disperse v. modice pilosa, in margine nervoque dorsali sat dense molliterque pilosa (3—5 mm). Glandulae involucri dispersae, in pedunculis superne sparsae, in reliqua planta nullae. Flocci involucri nulli, in marginibus squamarum tantum modice numerosi, pedunculi superne dense floccosi v. subcanotomentosi, caulis usque ad medium subfloccosus, folia effloccosa. Flores subdilute lutei, ligulae apice glabrae; stylus obscurus: achaenia dilute brunea 3,5 mm longa. — Flor. Jul.-Aug.

Variat: 1) normale Zahn. — Helvetia: In monte Kalkberg supra pagum Splügen 1950—2200 m (Naegeli), in m. Montalin 2000 m supra pagum Maladers p. Curiam (Jaccard, Braun).

2) pilosum Zahn. — Folia utrimque subpilosa, involucrium subfloccosum. — Kalkberg p. Splügen (id.), p. Sils in v. Engadin (id.).

Exsiccata: Hierac. Naegel. no. 364 et 365 (planta culta).

Tab. 50, Fig. B. 5—8. *H. subspeciosum* Naeg. ssp. *calcicola* N. P. 1) *normale* Zahn (e m. Kalkberg supra Splügen, leg. ipse). 5. Squama. 6. Pedunculi portio. 7. Nervus dorsalis fol. secundi caulini. 8. Ligula.

30. Hieracium politum Fries, Symbolae 1848 p. 84: Epicrisis (1862) p. 73 (excl. loc. Algov.); Gren. Godr., Fl. de France II (1850) p. 355; Reichb., Comp. (1860) tab. 211, fig. 2; *H. glaucum* Vill., Hist. pl. Dauph. III (1789) p. 116; non All.; *H. glaucum* var. Fries, Epicr. p. 69; *H. Grenierianum* Arv.-Touv., Essai (1873) p. 50 pp.; *H. Arveti* Verlot, Catal. grains Jard. bot. Grenoble (1879) p. 12; Arv.-T., Hierac. alp. franç. (1888) p. 20; Zahn, in Koch Syn. (1901) p. 1805; = **subspeciosum-glaucum** (v. **-bupleuroides** Zahn, in Koch Syn. l. c. — Certissime cl. Friesius in Symbolis (1848) p. 84 et in Epicrisi p. 73 sub nomine *H. politum* descripsit *H. glaucum* Vill. verum, sed exemplar scilicet cultum respiciens hypophyllopodium „rosulas edens, sed sub anthesin aphyllopodium“ dicit. Post Friesium nomen „*politum*“ etiam a cl. Grenierio in Godr. Gren., Fl. de France (1850) II p. 355, ad *H. glaucum* Vill. relatum est. Planta spontanea Grenieriana a cl. Friesio demum visa, in Epicrisi p. 69 pro *H. glauco* inducitur. Sed ex differentia habitus et staturae, quae necessario existit inter plantam hortensem per multos annos cultam et plantam spontaneam, facile intelligitur, cur cl. Friesius plantam spontaneam et cultam postremo seiunxerit.

Habitus ut in *H. glauco*. Caules et folia saepe subviolacea. Caulis 20—50 cm altus gracilis subtiliter striatus epilosus. Folia radicalia numerosa petiolata v. breviter petiolata v. basin versus attenuata, exteriora obovata-spathulata apice rotundata, pleraque oblongo-lanceolata v. lanceolata acuta, interiora saepe anguste lanceolata, remote denticulata v. subdentata, in nervo dorsali basin versus petioloque sparsim breviterque pilosa, interdum etiam in margine sparsim ciliata aut minus sparse pilosa; caulina 3—5 lanceolata v. angustiora subsensim decrescentia, inferiora basi attenuata subpetiolata, summa linearia sessilia; omnia rigida glauca, interdum in parte superiore submaculata. Inflorescentia saepe subindeterminata subsquarrosa furcata 2—3 (—8) cephalia, acladium (2—) 3—6 (—9) cm longum, rami primarii subremoti arcuato-ascendentes 1 (—2) cephalia. Involucrium 11—14 mm longum globosum demum truncatum v. depressum. Squamae sublatiusculae obtusae, interiores acutiusculae v.

acutae, atrovirides dilutius viridi-marginatae, epilosae disperse v. subdense floccosae, in margine saepius densius floccosae, eglandulosae v. glandulis sparsis praeditae; pedunculi epilosi apice tantum subfloccosi et glandulis fere nullis v. solitariis obsiti. Bractae 4—6 sub involucrio confertae subulatae. Flores satis dilute flavi, stylus fuscescens demum obscurus; achaenia nigro-brunea.

Crescit in consortio *H. subspeciosi* et *H. glauci* v. *H. bupleuroidis* in alpinis Delphinatus et Austriae. — Fl. Jul.-Aug.

Subspecies **Arveti** Verl. l. c.; *H. Arveti* α) *genuinum* Zahn, in Koch Syn. l. c. Inter *H. subspeciosum* ssp. *chondrilloides* Vill. et *H. glaucum* All. quasi intermedia. Involucrum dense floccosum \pm farinaceum, interdum (ut etiam pedunculi sub involucrio) glandulis nonnullis adpersum. Folia angustiora subpetiolata vulgo haud maculata.

In alpinis calc. Delphinatus: Mt. Séuse p. Gap (A.-T.), de la Chapelle en Valgaudemard aux Clots aux bords de la Sèveresse (id.), sous les Rochers des Trois-Puëlles à St. Nizier près Grenoble (A.-T.); Villard-de-Lens; Briançon etc. (A.-T.)

Exsiccata: Magnier, Fl. select. 2774!; Soc. dauph. 2^e série (1890) no. 138!; Arv.-T. et Gaut., Hieracioth. gall. no. 126, 126^{bis}, 126^{ter}!!!

Tab. 51, Fig. A. 1—3. *H. politum* Fr. ssp. *Arveti* Verl. (Mt. Séuse p. Gap, leg. A.-T.). 1. Squama exterior. 2. Squama interior. 3. Pedunculus sub involucrio.

Subspecies **subisaricum** M. et Z.: *H. Arveti* β) *subisaricum* M. et Z., in Koch Syn. (1901) p. 1805. (Cfr. Murr, in Oesterr. bot. Zeitschr. 1893 p. 179, anno 1895 p. 393, ibidem 1902 p. 390). Inter *subspeciosum* ssp. *subspeciosum* Naeg. et *H. glaucum* quasi intermedia, secundum Murrium forsitan *bupleuroides* > *silvaticum* (s. *incisum*), sed verosimiliter *bupleuroides* \rightarrow *bifidum*. Ut icones docent, *H. subisaricum* et *H. Arveti* valde affinia sunt, et meo sensu sub una specie comprehendenda. Involucrum multo minus floccosum. Folia paulo latiora longius petiolata subcrassa valde nitentia et vere polita saepe subintegerrima saturatius viridia vulgo purpureo-maculata aut perfusa. Glandulae saepissime nullae.

Tirolia: In glareolis calc. valleculae „Isstal“ in m. Salzberg prope Hall 1650 m et in v. Hinterautal (Murr). Stiria: in m. Zeyritzcampel p. Kalwang (Correns).

Exsiccata: Doerfl., Herb. norm. 3151!

Tab. 51, Fig. B. 4—10. *H. politum* Fr. ssp. *subisaricum* M. et Z. (e m. Salzberg, leg. Murr). 4. Ligula. 5. Squama exterior. 6. Squama interior. 7. Pedunculus sub involucrio. 8. Achaenium. 9. Pilus pappi. 10. Pilus stellatus.

31. Hieracium armerioides Arv.-Touv., Essai (1871) p. 48; Monogr. (1873) p. 27; Hier. alp. fr. p. 37; *H. Murithianum* Favre, Bull. Soc. Murith. II p. 69 (1873), Guide bot. Simplon (1876); Bull. Soc. Murith. X (1882) p. 23; *H. penninum* Rap. apud Gremli; *H. murorum-glanduliferum* Arv.-T., Monogr. l. c.; *H. cirritum* Grex *Armerioides* N. P. II p. 267; Zahn in Koch Syn. (1901) p. 1806; = **bifidum-glanduliferum** Zahn, Monogr. Hierac. helv. ined.

Caulis 10—20 (—35) cm altus tenuis v. gracilis fere exstriatus usque ad basin subfloccosus inferne epilosus rarius disperse pilosus; interdum evoluti sunt caules laterales furcati. Folia rosularia 6—8 lanceolata v. angustiora \pm petiolata saepissime acuta sensim in petiolum angustata \pm glauca saepe \pm rigidiuscula integerrima v. inconspicue denticulata utrinque epilosa rarius subdisperse pilosa; caulinum 0—1 lineare. Inflorescentia \pm furcata, acladium (3 mm—) $\frac{1}{10}$ — $\frac{2}{3}$ —($\frac{5}{6}$) totius caulis; rami primarii 1—2 valde remoti; capitula 1—2 (—4). Involucrum (8—) 10—12 (—13) mm longum \pm globosum demum saepe late ven-

tricosum; squamae longe acuminatae acutissimae subnigrae immarginatae v. interiores tantum in margine anguste diluteque marginatae, omnes pilis ± obscuris dense villosae plerumque eglandulosae v. apice tantum glandulis minutissimis paucis obsitae, ad summum parce floccosae; pedunculi ± canotomentosi, superne sparsim v. disperse glandulosi, inferne cito eglandulosi, sparsim v. sat dense pilosi. Flores ± dilute flavi plerumque tubulosi, ligulae apice glabrae; stylus saepissime obscurus; achaenia straminea v. castaneo-brunea 2,5—3,3 mm longa.

Hab. in alpinis elatioribus Col di Tendae, Delphinatus, Pedemontii, Sabaudiae, Helvetiae. — Flor. Jul.-Aug.

Subspecies **armerioides** A.-T. l. c. — Caulis 18—35 cm altus infra medium epilosus, superne ut etiam pedunculi sparsim breviterque pilosus, pedunculi disperse glandulosi. Folia exteriora ± spathulata saepe obtusa mucronata, reliqua lanceolata subconspicua acutiuscula v. acuta, epilosa v. basin versus tantum parce pilosa. Achaenia straminea 3,3 mm longa. — Ramus superior saepe valde suprafastigiatus.

Variat: 1) **Murithianum** Favre. — Folia fere epilosa effloccosa. — In alpinis maritimis Italiae inter 18—2600 m: Col di Tenda, Pian Bernardo, Col de Pizzo, Vallée d'Ellero, V. Pesio, Valdieri, V. Castiglione, V. de Ferrière, Col de la Maddalena (Burnat, Vetter, Bicknell); Pedemontii: Alpes vaudoises (Rostan), Vallées de Cogne (Vaccari); Delphinatus et Sabaudiae: Pelvoux, Alpes de la Maurienne, Lautaret, Mt. Cenis, Mte Viso, Malrif etc. (A.-T.); Helvetiae: Grd St.-Bernard (Favre); in valle Saas: Gletscher alpe, Furggenalpe, Matmar (Bernoulli, Chenevard), mult. loc. in iugo Simplon (Favre), prope Gletsch versus iugum Furka (Zahn), Ormonts: La Tornettaz (Touton).

2) **puberulum** Arv.-T., Hier. alp. fr. p. 38; *H. trichocladum* A.-T., Monogr. p. 28; *H. murorum-leucochlorum* A.-T. l. c. — Folia in margine petioloque subpilosa, in nervo dorsali subfloccosa. — In Mte Viso (A.-T.), Grd-St.-Bernard (Wolf), Ollomont (Vaccari), Bricolla (Besse), Rhône-gletscher (Zahn); Helvetia orientalis: inter Berninahospiz et alpem Gruem (de Tavel); Helvetia australis: in alpe Wolfstaffel versus Strahlbaum p. Bosco (Baer). In alpe Montil p. Gressoney Pedemontii (Wolf).

3) **pilosum** N. P. II p. 268. Involucrum dilutius pilosum, caulis ± usque ad basin subpilosus pariter ac petioli et margines foliorum. — Grd-St.-Bernard (Favre), Alpe de l'Allée p. Zinal (Bernoulli), Simplon (Favrat), in iugo Nufenen (Favrat).

Exsiccata: F. Schultz, Herb. norm. 2457; Doerfler, Herb. norm. 3146 pp.; Soc. dauphin. 468; A.-T. et Gaut., Hieracioth. gall. 12.

Tab. 52, Fig. A. 1—4. *H. armerioides* A.-T. 1) *Murithianum* Favre (e m. Grd-St.-Bernard, leg. F. O. Wolf). 1. Flos. 2. Squama. 3. Pedunculus sub involuero. 4. Achaenium.

32. Hieracium ustulatum Arv.-T. = **silvaticum-glanduliferum** Zahn; Arv.-T., Monogr. (1873) p. 26, Hier. alp. fr. p. 36; *H. cirritum* N. P. II p. 260 pp. — Formae intermediae inter silvaticum et glanduliferum (v. piliferum), sed *H. glandulifero* magis similes, *H. dentato* comparandae.

Caulis 10—30 cm altus crassiusculus v. tenuis ascendens v. erectus subtiliter substriatus, saepe caules laterales evoluti. Folia rosularia 5—7 oblonga v. oblongo-lanceolata saepissime lanceolata basin versus attenuata petioliformia v. subpetiolata acutiuscula mucronata v. acuta

integerrima v. denticulata v. \pm dentata subglauca saepe sublutescentia rarius dilute viridia mollia v. subrigidiuscula; caulinum 0—1 inconspicuum, rarius 2—3 evoluta. Inflorescentia furcata v. altefurcata; acladium 3 mm usque ad $1\frac{1}{2}$ totius caulis pertingens, rami primarii 1—3 tenues v. crassiusculi saepissime valde remoti monocephali rarius simpliciter ramosi, capitula (1—) 2—3 (rarissime 3—6). Involucrum 10—15 mm longum initio plerumque ovatum demum saepissime ventricosoglobosum, squamae angustae v. sublatiusculae pleraeque acutissimae nigrae immarginatae rarius dilute submarginatae saepissime apice subbarbulatae. Pili in involucrio modice numerosi v. densi obscuri v. albidi interdum nigri, caulis basin versus tantum subpilosus v. utrimque mediocriter pilosus, folia utrimque modice v. \pm dense pilosa. Glandulae in involucrio modice numerosae v. densae rarius sparsae v. nullae, in pedunculis \pm densae v. densissimae \pm nigrae, rarius sparsim evolutae, in caulibus fere usque ad basin descendentes sed inferne valde deminutae, interdum nullae. Flocci involucri nulli v. dispersi, pedunculi canotomentosi, caulis saepe usque ad basin deminute floccosus, folia fere semper effloccosa. Flores varie lutei, ligulae apice glabrae; stylus \pm obscurus; achaenia dilute rubro-brunea v. castanea 2,8—3,5 mm longa.

In alpinis elatioribus 2000—2600 m. — Fl. Jul.-Aug.

Dispositio gregum:

- a. *Leucochlorum* Zahn, in Koch Syn. (1901) p. 1807; = *silvaticum-piliferum*. Involucrum dense albo- v. griseo-pilosum fere eglandulosum.
- b. *Ustulatum* Zahn l. c. p. 1806; = *silvaticum-glanduliferum*. Involucrum mediocriter v. dense et obscure v. nigro-pilosum, sat dense glandulosum. Pedunculi saepissime densissime nigro-glandulosi.
- a. *Leucochlorum*.

Subspecies ***leucochlorum*** A.-T., Monogr. (1873) p. 28; Hier. alp. fr. p. 38; *H. piliferum* 2) *leucochlorum* A.-T., Ess. classificat. (1880) p. 6; *H. cirritum* ssp. *leucochlorum* N. P. II p. 261. — Caulis 10—20 cm altus usque ad basin pilosus et subfloccosus, saepe caulis lateralis evolutus. Folia rosularia lanceolata subpetiolata integerrima v. remote denticulata acuta utrinque sat dense pilosa (3—5 mm); caulina 2, inferius lanceolatum summum inconspicuum. Acladium 10 mm — $1\frac{1}{2}$ totius caulis, rami primarii 0—2, capitula 1—3. Involucrum 11—15 mm longum, squamae angustae acutissimae subnigrae densissime villosae in margine parce v. mediocriter floccosae \pm eglandulosae. Pedunculi albido-tomentosi saepissime sparsim glandulosi mediocriter pilosi. Stylus obscurus.

Delphinatus et Sabaudia: Mte Viso, Lautaret, Hte Maurienne, Mt. Cenis (A.-T.); Haut de Véron (Briquet). Helvetia: Morcles (Schleicher!), Nant supra Bex (Muret), Croix de Javernaz, Grandvire (Favrat), in v. Bagnetal: La Liaz (Miller), Gd.-Chermontagne (A.-T.), V. d'Ollomont (Besse), Gd. St.-Bernard (Wolf), in v. Saastal: Matmar, Schwarzenbergalpe (Bernoulli), Bricolla: Glacier de Salâi (Besse), Zwischenbergen (Briquet), Binntal (Mur.), Halbi-horenpass (Chenevard), Bosco (Baer), V. Piora (Bernoulli), Lukmanier (Muret), Piz Ucello (Bruegger). Tirolia: Inter iugum Sella et iugum Rodella (A. et K. Touton), Plaetzwiesen inter Prags et Schluderbach (idem). — Pedemontium: in vallibus p. Aosta: Cogne: Alpe Montil (Wolf), Cogne-St. Marcel (Wilczek); Gressoney-Col d'Olen (idem); Vallon de Breuil (Vaccari).

Variat: 1) ***longipilum*** N. P. II p. 262. Pili in involucrio et in caulibus 4—5 mm longi, folia saepe elliptico-lanceolata remote serrato-denticulata. In v. Bagnetal: Torrembec, Simplon (Wolf); in m. Valserberg supra Hinterrhein 2000—2275 m (Naegeli).

Tab. 52, Fig. B. 5—8. *H. ustulatum* A.-T. ssp. *leucochlorum* A.-T. (e valle Saastal, leg. Bernoulli). 5. Ligula. 6. Squama. 7. Pedunculus sub involucri. 8. Pilus squamae.
b. *Ustulatum*.

1. Involucrum fere eglandulosum.

Subspecies **absconditum** Huter, in sched. 1874! et apud Dalla Torre, Atlas Alpenpfl. p. 150; *H. fuliginatum* Fries, Hierac. europ. exs. 33^{bis} (leg. Huter); *H. ustulatum* v. *absconditum* A.-T., Spicileg. Hierac. (1881) p. 26; Hier. alp. fr. p. 37; *H. glanduliferum* ssp. *absconditum* N. P. II p. 251. — Caulis 12—20 cm altus mediocriter albo-pilosus (1—2 mm) usque infra medium disperse glandulosus dense floccosus, saepe caulis lateralis furcatus evolutus. Folia rosularia 2—5 lanceolata v. elliptico-lanceolata acuta v. acutissima leviter denticulata v. subdentata breviter petiolata dilute viridia tenuia utrinque mediocriter v. sat dense pilosa (2—3 mm); caulinum 1 ± bracteiforme. Acladium $\frac{1}{4}$ — $\frac{1}{2}$ totius caulis, capitula 1 (—2). Involucrum (10—) 13—15 mm longum, denique late globosum, squamae e basi latiore longe acuminatae acutae omnino nigrae dense obscureque pilosae (1—2 mm) effloccosae. Pedunculi mediocriter glandulosi pilosique.

2000—2350 m: Helvetia: In iugo Simplon p. hospitium, Schienhorn (Naeg., Wolf, Besse), Wengernalpe p. Grindelwald (Muret); in iugo Julier (A. et K. Touton) et Bernina: versus alpem Gruem (de Tavel). Tirolia: Nemesalp p. Sexten versus Rotheck (Huter), Kitzbühel (N. P.), Schlern (Grabmayr).

Exsiccata: Fries, Hierac. europ. 33^{bis}; Fl. austro-hung. 3333 (e loco Huteriano).

Tab. 53, Fig. B. 4—7. *H. ustulatum* A.-T. ssp. *absconditum* Huter (e loco class. Nemesalp, leg. Huter). 4, 5. Squamae. 6. Pedunculus sub involucri. 7. Achaenium.

1*. Involucrum mediocriter v. dense glandulosum.

Subspecies **ustulatum** Arv.-T. l. c., nec Almq. Caulis 15—30 cm altus ± crassiusculus superne densissime longeque nigroglandulosus usque ad basin floccosus et subglandulosus, inferne subpilosus (2—3 mm). Folia radicalia lanceolata basin versus attenuata v. indistincte petiolata obtusiuscula v. pleraque acuta dilute viridia subglaucescentia subrigidiuscula integerrima v. denticulata ± dense pilosa (3 mm) subtus ut folia exteriora saepe minus pilosa; caulina 1—2 (—3) valde decrescentia. Acladium $\frac{1}{15}$ — $\frac{1}{2}$ totius caulis, rami primarii 1—2 (—4) subremoti v. valde remoti subcrassiusculi, capitula 1—3 (—5); saepe caules laterales evoluti. Involucrum 10—14 mm longum demum (late) ventricosum, squamae sublatiusculae acutiusculae v. acutae nigrae, saepe viridi-submarginatae apice ± barbulae, mediocriter v. basin versus densius pilosae (1—2 mm), dense v. mediocriter glandulosae fere effloccosae. Pedunculi disperse pilosi dense longeque nigroglandulosi obscure cani. Flores evoluti v. tubulosi.

Delphinatus c. 2000—2400 m: Mte Viso, Col de Vars; Vallon de Ségure; Vallon du Guil; Col des Thurres!; Malrif!; Lautaret!; Nevache!; col des Rochilles et mont Thabor etc. (A.-T.). Sabaudiae: Mt Cénis (Herb. Gaudin, leg. Thomas!)

Exsiccata: Soc. dauphin. 859.

Tab. 53, Fig. A. 1—3. *H. ustulatum* A.-T. ssp. *ustulatum* A.-T. (e iugo Lautaret, leg. A. Faure). 1, 2. Squamae. 3. Pedunculus sub involucri.

Subspecies **nigritellum** Arv.-T., Essai (1871) p. 49; Monogr. (1873) p. 25; N. P. II p. 263; *H. glandulifero-villosum* A.-T. l. c.: *H. ustulatum* b) *nigritellum* A.-T., Ess. classific. p. 6 et Hier. alp. fr. p. 37; *H. glanduliferum* v. *speciosum* Favre, Guide Simplon (1876)

p. 129 pp. — Caulis 12—20 (—32) cm altus superne dense nigroglandulosus et disperse pilosus v. fere epilosus, inferne mediocriter pilosus (3 mm) et glandulosus usque ad basin ± dense floccosus. Folia lanceolata attenuata v. subpetiolata ± acuta integerrima v. saepius denticulata v. serrato-dentata subrigidiuscula ± lutescenti-viridia utrinque dense pilosa (4—5 mm); caulina 0—1. Acladium 6—15 mm (— $\frac{1}{2}$ totius caulis), rami primarii 1—3 crassiusculi, capitula (1—) 2—4. Involucrum plerumque 10—11 mm longum, squamae exteriores obtusiusculae, interiores (v. omnes) acutissimae omnino nigrae apice barbulate dense nigro-pilosae (1—1,5 mm) tenuiter subglandulosae. Flores breviter lingulati v. fere tubulosi. Ramus superior saepe valde suprafastigiatus.

Delphinatus 20—2600 m: In consortio *H. ustulati* ssp. *ustulati*, vide supra (A.-T.); Helvetia: Grd-St.-Bernard (Wilczek), Glacier de Salâi (Besse), Matmarsee (Wolf), Simplon (Favrat); Pian alto in v. Piora (Bernoulli), Strahlbaum p. Bosco (Baer), in alpe Morghiola v. Piumogna (Chenevard), V. Bavona (Bahnmeier); Rheinwald supra Nufenen (Bruegger), Sils in v. Engadin (A. et K. Touton); in iugo Scheidegg inter Grindelwald et Wengernalp (Muret); Pedemontium: in v. Cogne: Filone Liconi (Wolf) etc. Tirolia: In m. Schlern (Gugler).

Variat $\alphagenuinum Zahn (vide supra).$

b) *microcephalum* Zahn. Involucrum saepe 7—8 mm tantum longum. — Wengernalp (Muret), Pic de Chaussy (Mermod).

β) **biscutellifolium** Arv.-T. in herb. Chenevard! Folia duplo breviora breviter grosse dentata v. denticulata utrinque dense molliterque pilosa. — In iugo Simplon (Chenevard).

γ) **semproniculum** Arv.-T. ibidem! Folia ± glabrescentia, glandulae multo breviores. Verosimiliter transitus glanduliferum hololeptum → silvaticum. — In m. Schienhorn iuxta iugum Simplon et versus Arrête de la Punta della Valle supra Iselle 2200 m (Chenevard).

Tab. 54, Fig. A. 1—3. *H. ustulatum* A.-T. ssp. *nigritellum* A.-T. (α *genuinum* Zahn f. *tubulosum*, e iugo Lautaret, leg. Arvet-Touvet). 1. Flos. 2. Squama. 3. Pedunculus sub involucrio.

Subspecies **Favreanum** Arv.-T., Hier. alp. fr. p. 39 (pro var. *H. ustulati*); *H. glanduliferum* v. *insigne* et *speciosum* Favre, Guide Simplon (1876) p. 129, 130 pp.; *H. Bessanum* Favrat in sched.; *H. piliferum ramiferum* Gremli in sched. pp.; *H. cirritum* ssp. *nigritellum* 2) Favrei N. P. II p. 264. — Caulis ad 20 cm altus crassiusculus superne ± epilosus (bracteae dense pilosae) et dense glandulosus, usque ad medium v. profundius subglandulosus, usque ad basin dense floccosus. Folia lutescenti-viridia oblonga v. elliptico-lanceolata obtusiuscula et saepe plicata v. acuminata acuta, in petiolum brevem sensim angustata sat magna utrinque dense pilosa (praecipue in petiolo), exteriora saepe ± glabrescentia, fere integerrima subundulataque v. denticulata, interdum basin versus dentibus 1—2 magis elongatis praedita; caulinum 0—1. Acladium $\frac{1}{10}$ — $\frac{3}{4}$ totius caulis, rami primarii 0—2, capitula 1—3, saepe 1—2 caules laterales furcati evoluti. Involucrum 11—13 mm longum demum late depressum; squamae e basi ± lata acuminatae, omnes acutae omnino obscurae dense obscureque (v. cano-) pilosae (2—3 mm) mediocriter tenuiterque glandulosae effloccosae. Flores lingulati.

Helvetia: Grd St.-Bernard: l'Ardifagoz (Favre), Thyon, Matmar (Wolf), in iugo Simplon et versus Kaltwassergletscher (Favre) et in m. Glisshorn (Wolf); in m. Tierberg supra alpeni Muttentalpe p. Realp 2400 (Correns).

Tab. 54, Fig. B. 4—7. *H. ustulatum* A.-T. ssp. *Favreanum* A.-T. (e iugo Simplon, leg. F. O. Wolf). 4. Pedunculus sub involucrio. 5. Ligula. 6. Squama. 7. Achaenium.

33. Hieracium cirritum Arv.-T. = **silvaticum** > **glanduliferum**; Arv.-T., Monogr. (1873) p. 27; Hier. alp. fr. p. 76; N. P. II p. 260 pp. — Inter *silvaticum* et *glanduliferum*, sed *H. silvaticum* magis simile, habitu *H. incisum*. Caulis 20—35 (—50) cm altus tenuis v. gracilis subflexuosus subtiliter striatus apicem versus ramosus phyllopodus. Folia rosularia 3—6 distincte v. longe petiolata, ovata elliptica oblonga v. oblongo-lanceolata et lanceolata, obtusa v. acuta, basi truncata interdum ± cordata v. rotundata v. cito sensimve in petiolum angustata, denticulata v. dentata v. ± serrato-dentata saepe grosse v. profunde dentata v. pinnatifida, dilute viridia v. subglaucescentia mollia v. subrigidiuscula, eglandulosa utrinque dense v. tantum ± modice pilosa (1—3 mm); caulinum 0—1 (—2) saepissime parvum interdum in nervo dorsali subfloccosum. Inflorescentia laxa paniculata v. altefurcata; acladium 0,5—5 cm longum; rami primarii (1—) 2—5 (v. plures), superiores saepe paulum remoti, simpliciter ramulosi v. monocephali, capitula 2—6 (—12). Involucrium (9—) 10—12 (—14) mm longum primo ovatum demum ± globosum; squamae angustae acutissimae nigrae interdum anguste diluteque marginatae dense pilosae (1—1,5 mm) v. fere epilosae mediocriter glandulosae. Pedunculi superne dense glandulosi ± subpilosi, caulis deminute glandulosus, infra medium saepissime eglandulosus. Flocci in involucrio nulli v. densissimi, caulomata superne ± dense floccosa saepe usque ad basin subfloccosa. Bractee 2—3 minutae. Flores ± lutei saepissime lingulati, stylus ± obscurus; achaenia atra 3—3,5 mm longa.

Hab. in alpebus elatioribus. Flor. Jul.-Aug.

H. cirritum A.-T. complectitur (ad interim) etiam *H. bifidum* > *glanduliferum*.

Dispositio gregum:

- a. *Hypochoerideum* Zahn. Involucrium magnum 12—14 mm longum denique ventricosoglobosum depressum.
- b. *Cirritum* Zahn. Involucrium 10—13 mm longum mediocre v. sat parvum (more *H. silvatici*) ovatum denique saepissime latius depressum.
- a. *Hypochoerideum* Zahn.

Subspecies **hypochoerideum** Arv.-T., Suppl. à Monogr. (1876) p. 16; Hier. alp. fr. p. 74; *H. virgulatum* A.-T. l. c. — Caulis (10—) 20—35 (—50) cm altus gracilis v. crassiusculus saepe subascendens utrinque mediocriter v. sat dense pilosus (2—3 mm) et ± floccosus. Folia rosularia c. 6 petiolata fere ovata et ovata-lanceolata v. oblonga et oblongo-lanceolata, saepe fere triangularia, obtusa v. brevius longius acuminata basi abrupte sensimve in petiolum angustata, denticulata v. grosse dentata v. basin versus profunde sinuato-dentata, utrinque modice v. inferne magis pilosa, in margine dense pilosa, in nervo dorsali petioloque albopilosa (1—5 mm); caulinum 0—1 (—2) lanceolatum v. lineare; omnia lutescenti- v. sordide viridia subglaucescentia eglandulosa. Acladium 5—45 mm longum, rami primarii 0—2 (—3) remoti saepissime 1—2 cephalii. Squamae angustae acutissimae subnigrae sat dense pilosae (1—2 mm) fere eglandulosae parce v. sat dense floccosae. Pedunculi sat dense pilosi canofloccosi sparsim mediocriterve glandulosi. Flores lingulati, stylus obscurus.

Variat: 1) **normale** Zahn.

- a) **verum** Zahn. Involucrum parcefloccosum fere eglandulosum, pilis subdensis dilutis basi atris obtectum. — Delphinatus: Mte Viso (A.-T.); Helvetia: Les Outans, Lavaraz, Anzeindaz, Paneyrossaz (Chenevard), La Tornettaz (Wagner), in alpe Rosswald iuxta iugum Simplon (Favrat) et versus Kaltwassergletscher (Favre), Binn (Favrat), Egimental et Kuhmattalpe (Lagger), Rhône-gletscher, Naretpass (Zahn), Val Piora versus m. Corandoni (Hugenin, Bernoulli), Passo 3 Uomini (Bruegger), Aqua calda (Keller), Valserberg supra Hinterrhein (Zahn), Val de Fain (Muret), Piz Alv (Schroeter), Sils, Piz Padalla (A. et K. Touton), in v. Dukan (v. Tav.) et in m. Schiahorn (id.). — Italia: in m. Grigna supra Mandello (Wilczek); Pedemontium: Dondena in v. Champorcher pone Bard (Vaccari); Tirolia: Col de Rolle (Briquet).

Huc pertinet etiam planta e valle Samnaun (leg. Kaeser), a me in Koch Syn. (1901) p. 1807 ad *H. cephalotes* A.-T. relata. Vidi postea specimina authentica *H. cephalotis* A.-T., Suppl. à Monogr. p. 14, speciei meo sensu intermediae inter *H. oligocephalum* A.-T. et *H. bifidum* Kit.

- b) **subglandulosum** Zahn. Involucrum subglandulosum, reliqua ut in a. — Cum a) in Delphinatu et in Helvetia.

- c) **subcephalotes** Tout. et Zahn. Involucrum magnum crassum 13—15 mm longum. — Inter v. Fex et Muot Ota p. Sils Engadinae (A. et K. Touton).

- 2) **subfloccosum** Zahn. Squamae mediocriter floccosae, in margine saepe sat dense floccosae, fere eglandulosae. — Helvetia: Valserberg p. Hinterrhein (Zahn), Albris et Pischia iuxta iugum Bernina (Ruebler et Braun).

Tab. 56. *H. cirritum* A.-T. ssp. *hypochoerideum* A.-T. 2) subfloccosum Zahn, e m. Valserberg p. Hinterrhein, leg. ipse. 1. Ligula. 2. Squama. 3. Pedunculus sub involucrio. 4. Caulis portio. 5. Marginis folii portio. 6. Nervus dorsalis folii caulini. 7. Achaenium. 8. Pilus marginis foliorum.

b. *Cirritum* Zahn.

1. Folia utrimque densissime pilosa, in petiolo dense villosa.

Subspecies **trichopsis** Zahn, in Koch Synops. (1901) p. 1807 et in Schinz et Kell., Fl. Helv. ed. 2 II (1905) p. 299; *H. hypochoerideum* v. *atropilum* A.-T. in sched. — Caulis 20—40 cm altus mediocriter pilosus (2—3 mm), superne sparsim glandulosus, fere usque ad basin subfloccosus. Folia rosularia c. 6 ovata v. ovato-lanceolata obtusa v. ± acuminata acuta, basi saepissime truncata, interiora abrupte in petiolum contracta, glanduloso-denticulata v. basin versus dentata, sat longe petiolata tenuia, subtus saepissime violacea, in nervo dorsali interdum parcellissime floccosa; caulinum 0—1 lineare; omnia dilute viridia subglauescentia, pilis 1—2 mm longis, in parte superiore rigidiusculis, in petiolo ad 5 mm longis. Acladium 15—50 mm l., rami primarii 1—2 remoti 1—2 cephalis, capitula 2—4. Involucrum 10—12—13) mm l. ovatum denique globosum, squamae angustae acutissimae obscurae dilute marginatae parcefloccosae in margine tantum subfloccosae sparsim glandulosae, pilis dilutis basi atris dense pilosae (1—2 mm). Pedunculi mediocriter glandulosi sat dense pilosi (2—3 mm) ± dense floccosi superne obscure cani. Flores citrini, stylus ± obscurus.

Helvetia orientalis 1700—2000 m: Prope Loreth et Compatsch in valle Samnaun

(Kaeser), in v. Lischanna supra Schuls in silvis Pini Pumilionis (Killias), in alpe Naluns (id.), in v. Scarl (Schroeter), in m. Piz Padella et Piz Alv (A. et K. Touton).

Tab. 55. *H. cirritum* A.-T. ssp. *trichopsis* Zahn (e loco Kaeseriano). 1. Ligula. 2, 3. Squamae. 4. Pedunculus sub involucri. 5. Caulis portio. 6. Folium: portio e parte aversa cum nervo dorsali. 7. Pilus stellatus.

2. Folia supra mediocriter pilosa.

Subspecies **cirritum** A.-T. l. c.; *H. cirrhocephalum* A.-T., Essai (1871). — Caulis 10—30 cm altus disperse mediocriterve pilosus (1—2 mm) usque ad basin subfloccosus. Folia rosularia numerosa brevius longius petiolata \pm glaucescentia saepe tenuia utrinque disperse v. modice tenuiterque pilosa supra saepissime subglabrescentia, subtus ut etiam in margine petioloque saepe densius longiusque pilosa (1—3 mm), in nervo dorsali interdum (praecipue caulinum) subfloccosa, exteriora oblongo- v. obovato-spathulata obtusa, interiora oblonga v. pleraque lanceolata in petiolum brevius longius attenuata saepissime tantum denticulata rarius \pm dentata; caulina 1 (—2) lanceolata v. linearia. Acladium 10—30 (—50) mm longum, rami primarii 1—2 (—3), inferior remotus, monocephali v. simpliciter ramulosi, capitula (1—) 2—7. Involucrum c. 10 mm longum \pm ovatum v. globosum demum depressum, squamae angustae acuminatae acutiusculae v. omnes acutae obscurae anguste diluteque marginatae, sat dense v. dense pilosae (1—1,5 mm) sparsim mediocriterve glandulosae saepe sparsim floccosae. Pedunculi sat dense pilosi (1—1,5 mm) mediocriter v. sat dense glandulosi obscure cani. Flores \pm dilute lutei, stylus \pm obscurus.

Col di Tenda, Pedemontium, Delphinatus, Sabaudia, Helvetia, Tirolia, 1500—2500 m.

Variat: α) **genuinum** Zahn. Involucrum \pm sparsim floccosum.

1) **normale** N. P. II p. 264. Flores tubulosi.

a) **fuscescens** Arv.-T., Hier. alp. fr. p. 76. Squamae obscurae \pm cano-villosae saepissime sparsim glandulosae. — Col di Tenda (Bicknell); Delphinatus: Pétarel en Valgaudemard, l'Oursière, les Sept-Laux, Taillefer, la Chinarde et Serres, le Gargas, la Grave, Lautaret etc. (A.-T.); Sabaudia: Mt Châtelard p. St. Jean-de-Maurienne (A.-T.), Tête du Pré des Scaix 2100 m (Briquet).

b) **nigrescens** A.-T. l. c. Pili in involucri breves mediocriter numerosi obscuri, squamae subglandulosae. — Basses-Alpes: Annot (Reverchon), Delphinatus: Gd.-Chartreuse, Lautaret, Gap (A.-T.); Sabaudia: Col de l'Arc et sources de l'Arc; Helvetia: Gd. St.-Bernard: Les Combes (Besse), Menouve (Favre), Cantine de Proz versus Hospitium (A. et K. Touton), La Pierraz (Wilcz.), Dt. de Morcles (Favrat); Pedemontium: Flora valdostana: Vallées de Cogne, V. Champorcher (Vaccari etc.).

c) **longipilum** N. P. II p. 265. Pili involucri densissimi 3—4 mm longi satis obscuri. — Rhaetia: in m. Mittaghorn p. Hinterrhein (Naegeli).

d) **latifolium** N. P. II p. 265. Folia sat magna \pm oblongo-spathulata \pm silvaticiformia sat grosse dentata supra fere glabra. Pili in involucri cauleque sat densi subdiliuti. Flores saepe haud tubulosi. — Tirolia: in iugo Brenner (Naegeli).

2) **lingulatum** N. P. II p. 264. Flores lingulati.

a) **normale** Zahn (lingulatum N. P. I. c.). Involucrum 11—14 mm longum ovatum demum ventricosoglobosum. Folia oblonga v. elliptica, interiora lanceolata. — Delphinatus: Lautaret (Neyra).

b) **tenellum** Huter et Ausserd. in sched. 1870, nec Arv.-T., Hier. alp. fr. p. 76. Involucrum (8—) 9—10 mm longum ovatum. Folia oblongolanceolata v. lanceolata. Tirolia: in v. Mühlwald (Ausserdorfer), Weitfeld et Trippach in v. Ahrn (Treffer), in m. Schlern et in iugo Sella (Val de Lievre).

β) **elisum** A.-T., Hier. alp. fr. p. 76; non N. P. II p. 267; *H. canescens* et *tenellum* A.-T. I. c. Involucrum mediocriter v. dense floccosum (saepissime breviter pilosum). Folia saepe magis grosse dentata. Verosimiliter propria subspecies et inter bifidum et glanduliferum intermedia.

1) **tubulosum** Zahn. Flores tubulosi v. ligulae abbreviatae dentibus profundis incisae. — Delphinatus: Mte Viso (A.-T.); Helvetia: Gd. St.-Bernard, in alpinis Toggenburgensibus (??) et Friburgensibus (??) (A.-T.), Bellalui de Lens (Besse), Ferdenpass (Jaccard), La Tornettaz (A. et K. Touton), Piz Alv iuxta iugum Bernina (Braun).

2) **lingulatum** Zahn. Ligulae evolutae. — Cum praecedente.

γ) **glabrescens** A.-T., Hier. alp. fr. p. 76. Involucrum fere epilosum sed saepissime ± floccosum.

1) **normale** Zahn. Flores tubulosi, involucrum subdense floccosum et subglandulosum. — Delphinatus: Mte Viso (A.-T.).

2) **dondenense** Zahn. Flores lingulati, involucrum minus floccosum et ut pedunculi dense glandulosum. — Pedemontium: in v. Champorcher pone Bard: inter Dondena et Laris 19—2100 m (Vaccari).

Exsiccata: Doerfler, Herb. norm. 3147 (*H. cirritum* α 2) *lingulatum* b) *tenellum* Hut. et Ausserd.).

Tabula 57. A. 1—4. *H. cirritum* A.-T. α) *genuinum* 2) *lingulatum* b) *tenellum* Hut. et Ausserd. (Weissenbach in v. Ahrn, leg. Treffer). 1. Squama exterior. 2. Squama interior. 3. Ligula. 4. Pedunculus sub involucrio.

Tab. 57. B. 5—7. *H. cirritum* A.-T. α) *genuinum* 1) *normale* b) *nigrescens* A.-T. (e iugo Lautaret, leg. Arvet-Touvet). 5. Flos. 6. Squama. 7. Pedunculus sub involucrio.

Subspecies **melanops** Arv.-T., Hierac. alp. fr. p. 75. — Caulis 10—40 cm altus disperse breviterque pilosus ± floccosus. Folia rosularia late ovata v. ovato-lanceolata sat magna, basi cordata v. truncata v. breviter attenuata, dilute viridia subtus interdum subviolacea, obtusa v. breviter acuta, dentata et inter dentes elongatiores denticulata pluridentia saepissime utrimque dentibus 2—3 grossioribus munita, utrimque disperse v. sat dense pilosa (0,5—1 mm) v. supra ± glabrescentia; caulinum 0—1 lineare v. ± lanceolatum petiolatum denticulatum v. dentatum. Acladium 1—8 cm longum, rami primarii 2—3 (—4) saepe simpliciter ramulosi, capitula 2—5 (—8). Involucrum 10—12 mm longum globoso-ovatum, squamae angustae acutiusculae v. acutae, exteriores saepe obtusiusculae, subnigrae immarginatae, sparsim mediocriterve floccosae sat dense obscureque glandulosae mediocriter pilosae v. epilosae. Pedunculi quoad indumentum similes. Flores saepissime lingulati, stylus obscurus.

Variat: α) **genuinum** Zahn. Involucrum subpilosum.

1) **normale** Zahn. Acladium breve, capitula subnumerosa, folia basin versus subattenuata. — Delphinatus: Vallon du Guil sous la Traversette!, Vallon du Ségure in silvis Pini cembrae, Combe de Malrif etc. (A.-T.); Sabaudia: Col de Léchaud (Briquet); Helvetia: Gd. St.-Bernard: Les Combes (A. et K. Touton), Bovonnaz et Canfin supra Bex (Muret), La Tornettaz (A. et K. Touton); Sils et Parpan (id.), Piz Alv (Schroeter), Schiahorn p. Davos (de Tavel), in v. Samnaun (Kaeser).

2) **subcordatum** A.-T. l. c. Acladium longius, capitula 2—3, folia silvaticiformia basi saepe subcordata. — Helvetia: Lavaraz et Les Outans supra Bex (Wolf), La Tornettaz (A. et K. Touton), Samnaun (Kaeser).

β) **glandulosum** Zahn. Involucrum fere epilosum \pm dense glandulosum. — Helvetia: Canfin, Derborence, Les Outans (Chenevard, Wilczek), Val d'Anniviers (Wilczek).

Tab. 58, Fig. A. 1—3. *H. cirritum* A.-T. ssp. *melanops* A.-T. α) *genuinum* 1) *normale* Zahn (e m. St.-Bernard: Les Combes, leg. A. et K. Touton). 1. Margo ligularum. 2. Squama. 3. Pedunculus sub involuco.

34. Hieracium pseudocirritum Touton et Zahn — **bifidum-cirritum** v. *bifidum* > *glanduliferum*; Tout. et Z., in Bull. herb. Boiss. (1903) p. 1131 et in Schinz et Kell., Fl. Helv. ed. 2 II (1905) p. 300; *H. Baerianum*, *bernardinum*, *vernuntianum*, *murorum alpestre* etc. Arv.-T. in sched.!

Habitus ut in *H. bifido*. Caulis 25—40 cm altus \pm striatus disperse breviter quepilosus usque ad basin \pm floccosus. Folia rosularia cordato-ovata v. ovato-lanceolata rarius \pm oblongo-lanceolata et brevius longius in petiolum attenuata obtusa v. \pm acuminata acutaeque, grosse v. inciso-dentata interdum pinnatifida, dilute v. \pm lutescenti-viridia saepe \pm subglaescentia, supra glabra saepeque submaculata v. sparsim breviterque pilosa, subtus sparsim v. mediocriter pilosa, in nervo dorsali saepe subfloccosa et ut in margine petioloque longius densiusque pilosa; caulinum 0—1 lineare v. lanceolatum et \pm dentatum. Inflorescentia laxa paniculata 3—10 cephalis, acladium 1—4 cm longum, rami primarii 2—3 (—4) \pm remoti \pm erecti monocephali v. simpliciter ramulosi. Involucrum 9—12 mm longum ovatum demum late depressum, squamae subangustae v. sublatiusculae acuminatae obtusiusculae v. acutissimae subbarbulatae utrinque v. praecipue in margine dense floccosae v. in margine tomentosae, sat dense pilosae disperseque glandulosae ut etiam pedunculi (hi simul apice canotomentosi). Pili curvati apice cani basi atri. Flores subabbreviati saturate lutei, dentes ligularum saepe obscurius lutei, stylus saepissime obscurus, achaenia subatra.

In alpebus elatioribus ad 2600 m saepissime in consortio *H. cirriti*. — Flor. Jul.-Aug.

Involucrum dense floccosum ut in *H. bifido*, pili et glanduli ut in *H. cirrito*, involucrum demum late depressum, a formis *H. psammogenis* aegre dignoscitur.

Variat: α) **genuinum** Zahn. Pleiocephalum, involucrum 9—10 mm longum, folia supra sparsim pilosa in petiolo basi subvillosa.

1) **normale** Zahn. Folia grosse dentata. — Helvetia: Ormonts: in alpe Léchéret, La Tornettaz (A. et K. Touton), Fionney usque ad alpem Louvie (id.), Gd. St.-Bernard (Wilcz.), Thyon (Wolf), in alpe Liappey (Jaccard), Simplon (Favre), in valle Eginen non infrequens (Zahn); Furka p. Bosco

versus Marchenspitz (H. Baerianum A.-T.), Piz Alv (Schroeter), Ofenpass (Brunies), Lukmanier (Keller), Valserberg supra Hinterrhein (Zahn), in valle Calfeuser Tal (Muret); in iugi Gr. et Kl. Scheidegg p. Grindelwald (Bernoulli, Chenevard), Rosenlaui (Bernoulli); Italia: Grigna de Pasturo et Mte Campione supra Lecco (Wilczek).

2) **laceratum** Zahn. Folia basin versus lacerata. Simplon (Tout.), in v. Eginen (Zahn); Aqua calda (Keller).

3) **alpestre** Zahn. Planta humilis saepissime 2 cephal. — Col de Riedmatten (Besse).

4) **maculatum** Zahn. Folia supra submaculata, reliqua ut in f. lacerato. — Weisshorn p. Arosa 2630 m (Braun).

β) **biceps** Zahn in sched. Caulis 20—25 cm altus, involucri ad 12 mm longum magis crassum sat dense pilosum, capitula (1—) 2 (—4), rami primarii 1 (—2).

1) **normale** Zahn. Involucri fere eglandulosum, pedunculi submodice glandulosi, squamae obscurae margine canotomentosae, breviter diluteque villosae. — Helvetia: Col de la Croix inter Gryon et Ormont, La Torrettaz (Bernoulli, Touton), Ayre-Alpe p. Lens (Besse).

2) **nareticum** Zahn. Involucri et pedunculi ± eglandulosi, squamae utrinque canae, reliqua prioris. — In iugo Naret inter v. Bedretto et v. Maggia (Zahn); in declivibus calcareis m. Piz Alv (Ruebler et Schroeter).

Tab. 58, Fig. B. 4—7. *H. pseudocirritum* Tout. et Zahn. 4. Flos. 5. Squama. 6. Pedunculus sub involucri. 7. Portio e medio caule.

35. Hieracium aphyllum N. P. — **dentatum-glanduliferum**: N. P. II p. 234; *H. (villosum-piliferum) -silvaticum* N. P. I. c.

Caulis 10—30 cm altus tenuis subtiliter striatus mediocriter v. sat dense pilosus usque ad basin floccosus. Folia rosularia 3—10 petiolata elliptica v. oblonga v. lanceolata, exteriora obtusa, interiora acutiora v. acuta, integerrima v. sparsim denticulata subglaucescentia mollia, mediocriter v. ± dense molliterque pilosa (2—3 mm); caulina 0—3 saepe valde inconspicua. Inflorescentia furcata (accladium $\frac{1}{5}$ — $\frac{2}{5}$ totius caulis) v. monocephala. Involucri 9—12 mm longum globosum, squamae angustae acutissimae subnigrae densissime diluteque sericeo-pilosae (2—3 mm) effloccosae eglandulosae v. sparsim tenuiterque glandulosae. Pedunculi tomentosi mediocriter v. sat dense pilosi, glandulis solitariis obtecti v. eglandulosi. Flores ± saturate lutei, ligulae glabrae, stylus luteus v. obscurus, achaenia ± atra, 2,5—3 mm longa.

In alpebus elatioribus Helvetiae et Tiroliae. — Flor. Jul.-Aug.

Subspecies **aphyllum** N. P. I. c.; *H. leucochlorum* A.-T. in sched. pp.; *H. erigerontinum* A.-T. in sched. nonnullis, non Bull. Soc. bot. France XLI (1894) p. 328. — Folia sat magna oblongo-lanceolata longe sensimque in petiolum brevem attenuata, sed obtusa v. breviter acuta mucronata vulgo haud denticulata utrinque mediocriter pilosa. Pedunculi glandulis solitariis praediti. Caulis 10—25 cm altus. Stylus luteus.

Helvetia: Col du Bonaudon (Lagger), Alpes de Chaussy (Mermoud), Cape au Moine, La Paroz (Leresche), Lac Lioson, La Torrettaz (Wagner, Touton), Morcles (Schleicher, sub. nom. alpinum); Chaux du Milieu supra Taney (Bernoulli), Col Fenêtre supra v. Ollomont

(Wilczek), Glacier de Salai in v. Ferpècle (Besse), in m. Riffel supra Zermatt (Gave), Saftischmatt p. Binn (Besse); in v. Piora: inter Lago Tom et Lago Cadagno (Bernoulli).

Tab. 59, Fig. A. 1—3. *H. aphyllum* ssp. *aphyllum* N. P. (e m. La Tornettaz in Ormonts, leg. A. et K. Touton). 1. Flos. 2. Squama. 3. Scapi superioris portio.

Subspecies **singulare** Huter exsic.! et apud Zahn, in Koch Syn. (1901) p. 1809. Habitus speciminis minoris *H. piliferi*, monocephalum. Folia lanceolata v. anguste lanceolata utrinque attenuata distincte subpetiolata, exteriora acutiuscula, \pm integerrima saepe margine subundulata, utrinque pilis dispersis sat longis crispis oblecta rarius glabrescentia. Glandulae ubique nullae aut valde solitariae. Caulis c. 10 cm altus. Stylus subobscurus.

Tirolia: In alpe Prantneralpe montis Platzerberg supra Gossensass iuxta iugum Brenner 2350 m (Huter).

Tab. 59, Fig. B. 4—7. *H. aphyllum* N. P. ssp. *singulare* Huter (e loco class., leg. Huter). 4. Flos. 5. Squama. 6. Scapi superioris portio. 7. Marginis folii portio.

36. Hieracium sublongifolium Zahn, in Mitteil. Bad. bot. Vereins (1899) p. 137 (sub *H. diabolinum*) et in Koch Syn. (1901) p. 1811; in Schinz et Kell., Fl. Helv. ed. 2 (1905) II p. 302; *H. Plumieri* A.-T., in Wilczek, Notes Hierac., Bull. Soc. Murith fasc. XXXI (1902) p. 105; *H. Kaeseri* A.-T. in sched. herb. Kaeseri!; *H. longifolium* Christener, Hier. d. Schw. (1863) p. 9 pp.; = **rupicolum-longifolium** Zahn; *silvaticum-longifolium* Zahn, in Koch Syn. l. c.

Habitus ut in *H. longifolio* Schleicher. Caulis 25—30 cm altus gracilis subflexuosus, superne mediocriter- (3 mm) inferne densius pilosus (5 mm), fere usque ad basin floccosus. Folia rosularia 5—8 petiolata fere elliptico-lanceolata v. lanceolata acuminata sensim in petiolum anguste alatum attenuata, denticulata v. leviter remoteque sinuato-dentata, dilute viridia subglaucescentia \pm rigidiuscula, in nervo dorsali sparsim mediocriterve floccosa, supra fere glabra v. unacum parte aversa sat dense pilosa, pili conspicue dentati, superne rigidiusculi (3 mm), in nervo dorsali densissimi ad 5 mm l. molles, in margine 3—4, in petiolo ad 5 mm longi, ergo rosula basi dense longeque pilosa; caulina 2—4 in nervo dorsali \pm dense floccosa, inferius lanceolatum breviter petiolatum, reliqua cito decrescentia \pm anguste lanceolata basi angustata sessilia. Inflorescentia altefurcata 2—7 (—14) cephalae, acladium 1—2 cm longum, rami primarii (1—) 2—3 (—5) remoti, inferior saepe medio cauli insertus, arcuato-ascendentes graciles monocephali v. simpliciter ramosi. Involucrum 12—14 mm longum crasse ovato-oblongum demum globosum, squamae exteriores angustae fere adpressae, interiores latiores sensim acuminatae, acutiusculae v. acutae, obscurae dilutius marginatae, sat dense diluteque pilosae (2 mm) sparsim glandulosae disperse- v. in margine tantum mediocriter floccosae. Bractae 1—2 (—3) lineares. Pedunculi \pm mediocriter pilosi disperse glandulosi canotomentosi. Flores dilute lutei, ligulae fere non ciliatae, stylus obscurus, achaenia subatra.

Hab. in Engadina 1750—1980 m: In rupibus p. Suotsass inter Samaden et Celerina (O. Heer 1849), versus Celeriner Alpe (Bruegger), Crap Sasella (A. et K. Touton), p. Clavadels in v. Roseg (Favrat, Braun 1905!), ad pedem meridionalem m. Berninae inter glaciem Paluegletscher et Cavaglia in consortio Primulae longiflorae (Bruegger).

Cl. Arvet-Touvet, in Bull. soc. Murith. l. c., addicit hanc speciem sectioni *Eriotricha* A.-T., quae intermedia est inter sectiones *Lanata* et *Glaucula* v. inter *Lanata*, *Villosa* et *Glaucula*, at habitus et characteres nullo modo respondent aliis formis sectionis *Eriotricha*. Nos hanc speciem intermediam putamus inter *H. longifolium* Schleicher et *H. Schmidii* Grex *Rupicolum*.

Tab. 60, Fig. A. 1—3. *H. sublongifolium* Zahn (Suotsass p. Samaden, leg. Candrian).
1. Squama. 2. Pedunculus sub involuero. 3. Margo ligularum.

37. Hieracium rupicoliforme Zahn = **sublongifolium** < **rupicolum**; Zahn, in Koch Syn. (1901) p. 1811; *H. silvaticum* > *diabolinum* Zahn l. c.; *H. rupicolum* Favrat in sched.!: *H. expallens* f. *depressa* A.-T. in sched.!

Habitus *H. rupicoli*, sed capitula crassiora. Caulis 20—35 cm altus subgracilis striatus usque ad basin floccosus et disperse pilosus eglandulosus. Folia rosularia numerosa (5—8), exteriora minora ovata v. elliptica apice rotundata v. obtusiuscula, interiora maiora sat magna elliptica v. oblonga et oblongo-lanceolata acutiuscula v. breviter acuta, omnia brevius longiusve in petiolum contracta acute denticulata v. basin versus leviter sinuato-dentata v. utrinque dentibus 1—2 subelongatis munita, supra disperse v. submodice tenuiter setosa (2,5 mm), subtus ± mediocriter molliterque pilosa et mediocriter v. dense floccosa, in margine nervoque dorsali ± dense pilosa (2—4 mm), subrigidiuscula dilute viridia subglaucescentia subtus subcinereo-viridia; petiolus saepe brevior quam lamina utrinque floccosus et ± dense pilosus (3—4 mm); caulina 1 (—2), inferius lanceolatum utrinque attenuatum acutum subtus dense-, supra saepe sparsim floccosum, superius parvum lineare. Inflorescentia altifurcata 2—5 cephalis suprafastigiata, acladium (15—) 35—80 (100) mm longum, rami primarii 1—2 subremoti arcuato-ascendentes monocephali v. simpliciter ramosi. Involucrum sat magnum 12—14 mm longum globoso-ovatum demum late ventricosum et ± truncatum. Squamae angustae, interiores latiores e basi latiore longe acuminatae acutae v. acutissimae, obscure canae margine albo-virides, sat dense breviterque pilosae, pilis basi atris, sat dense floccosae sparsim glandulosae. Pedunculi (superne obscure-) cani mediocriter pilosi disperse glandulosi, pilis basi atris. Bracteae 2—3 minutae. Flores dilute lutei, ligulae apice saepe breviter ciliatae, stylus subobscurus demum fuscus, achaenia atra.

Hab. in Rhaetia engadinensi: in v. Beversertal, non infrequens (Favrat). — Flor. Jul.-Aug.

Tab. 60, Fig. B. 4—7. *H. rupicoliforme* Zahn (e loco classico, leg. A. et K. Touton).
4. Squama. 5. Pedunculus sub involuero. 7. Margo foliorum rosulae. 7. Achaenium.

38. Hieracium caesium Fries = **vulgatum-silvaticum-glaucum** Zahn: Fries, Symb. (1848) p. 112; Epicr. (1862 p. 92; Dahlstedt, Bidrag Sydöstr. Sverig. Hierac.-Fl. III (1894) p. 7; *H. vulgatum* β. *H. caesium* Fr., Nov. ed. 1 (1819) p. 76; *H. murorum* α L., Sp. pl. ed. 2 p. 1128 et Auct. plur. Scandinav. Huc pertinent *H. plumbeum* Fries, Symb. 111 pp.; *H. angulare* Fr., Öfvers. Kgl. Sv. Ak. Förh. (1856) p. 148; *H. bifidum* Auct. Scand. pp.; Reichb. fil., Comp. tab. 163, fig. 2; *H. silvaticum-glaucum* F. Schultz, Archives I p. 178; Archives II p. 17 et in Flora (1850) p. 212; etiam *H. murorum* v. *nemorosum* Sauter! Fl. Salzburg II (1868) p. 91; nec Pers.

Caulis (15—) 25—50 (—70) cm altus fere glaber v. sparsim breviterque pilosus saepe paene usque ad basin floccosus. Folia rosularia ± numerosa ovata v. late lanceolata abrupte v. sensim in petiolum angustata, exteriora saepe obtusa pleraque acuminata acuta, rarius ± lanceolata, fere aequaliter glanduloso-serratodentata v. ± irregulariter inciso-dentata, dentibus patentibus, subpilosa v. supra ± glabra; caulina (1—) 2—4 (—7), inferiora ± petiolata ± dentata v. inciso-dentata ovato-lanceolata v. lanceolata cito (rarius sensim) decrescientia, superiora saepe parva; omnia ± dilute viridia saepissime subglaucescentia, in parte aversa haud raro ± colorata. Inflorescentia laxa paniculata v. paniculata, acladium (3—) 10—30

(—50) mm longum, hinc inde longius, rami primarii pauci v. complures saepissime remoti, caulis haud raro ex omni ala ramos elongatos patentes exserens, interdum caules laterales evoluti, rami monocephali v. simpliciter (rarius dupliciter) ramosi, capitula pauca v. ± numerosa, involucrium (9—) 10—12 (—13,5) mm longum ± crasse ovatum, squamae lineares v. lanceolatae, exteriores saepissime ± obtusiusculae, interiores acutae v. acutissimae sparsim mediocriterve pilosae fere eglandulosae v. pilis glandulisque aequaliter mixtis obsitae, rarius paulo densius glandulosae quam pilosae, parce vel densissime floccosae v. margine tantum ± floccosae. Pedunculi cani v. albidi fere eglandulosi v. subglandulosi sparsim v. submodice pilosi. Flores ± saturate lutei, stylus luteus v. obscurus, ligulae apice glabrae, achaenia subatra.

In regionibus montanis et subalpinis Europae mediae et borealis. — Flor. Jun.-Aug.

Inter *H. vulgatum* et *bifidum* quasi intermedium, sed plerisque locis certissime non hybridum.

Dispositio gregum:

- a. *Caesium* Zahn. Squamae ± latae, exteriores saepissime obtusae.
- b. *Davallianum* Zahn. Squamae angustae obtusiusculae v. acutissimae.
- a. *Caesium* Zahn.

Subspecies **carnosum** Wiesbaur, Oesterr. bot. Zeitschr. (1881) p. 240; Deutsche bot. Monatsschr. (1884) p. 57; Zahn. in Koch Syn. (1901) p. 1818; *H. vulgatum-silvaticum-glaucum* Zahn l. c.; *H. murorum glaucescens* Neir., Fl. N. Oesterr. (1859) p. 440 et herb., apud Dichtl in Deut. bot. Monatsschr. (1884) p. 57; *H. caesium* β) *carnosum* G. de Beck, Fl. Niederösterr. (1793) p. 1293. — Caulis 30—40 cm altus epilosus fere usque ad basin ± floccosus, inferne, ut etiam petioli et pars aversa foliorum, haud raro ± rubro-coloratus. Folia rosularia 2—3 late elliptica v. oblongo-lanceolata utrinque cito angustata, omnia acutiuscula v. acuta, breviter v. sat longe petiolata, superne glabra saepe submaculata v. pilis valde dispersis subsetaceis conspersa, subtus sparsim pilosa, in margine nervoque dorsali fere mediocriter breviterque pilosa, in petiolo breviter subvillosa, in nervo dorsali subfloccosa; caulina (0—) 2—3 remota, inferius petiolatum radicalibus simile, secundum basi cuneatum saepe grosse dentatum v. ut etiam superius lineari-lanceolatum; omnia ± glauca rigida ± carnosae. Inflorescentia squaroso-paniculata suprafastigiata 2—6 (—10) cephalae, aeladium ad 25 mm longum, rami primarii 2—4 ± remoti simpliciter ramosi. Involucrium crasse ovatum 12 mm longum, squamae acutiusculae v. acutae dense floccosae sparsim pilosae fere eglandulosae. Pedunculi canotomentosi. Flores aurei, stylus demum fuscus; achaenia fere atra.

Variat: α) **genuinum**. Stiria: St. Urbani p. Marburg (Murr); Austria inferior: Liechtenstein, Kalksburg, Moedling, Brühl p. Vindobonam (Wiesbaur, Dichtl).

Exsiccata: F. Schultz, Herb. norm. cent. XVII no. 1609 (Wiesbaur leg.).

β) **subcarnosum** G. de Beck l. c. Folia caulina tantum 2, inflorescentia laxae paniculata, involucrium sparsim glandulosum. — Austria inferior: ibidem.

Tab. 61. *H. caesium* Fr. ssp. *carnosum* Wiesb. α) *genuinum* (Rodaun p. Vindobonam, leg. E. Khék). 1. Squama interior. 2. Squama exterior. 3. Pedunculus sub involucrio. 4. Margo ligularum. 5. Portio e parte aversa folii caulini inferioris. 6. Achaenium.

b. *Davallianum* Zahn.

Subspecies *euroides* M. et Z., in Oesterr. bot. Zeitschr. (1903) p. 379. — Inter *vulgatum* et *bifidum*, habitus ut in *H. diviso* Jord. Caulis ad 45 cm altus striatus subflexuosus sparsim breviterque pilosus subfloccosus. Folia radicalia 2–3 petiolata oblongo-lanceolata v. latiora sensim in petiolum attenuata apice obtusiuscula v. acuta brevius longius dentata sparsim breviterque pilosa supra glabra saturate viridia glaucescentia; caulina 3–6, plerumque 3, inferiora subpetiolata reliqua sessilia, omnia utrinque attenuata acuta saepissime grosse serrato-dentata, superiora in nervo dorsali parce floccosa. Inflorescentia indeterminata, acladium ad 25 mm longum; rami primarii valde remoti elongati apice repetito-ramosi, capitula 5–30. Involucrum 9–10 mm longum subovatum, squamae subangustae acuminatae acutiusculae v. acutae breviter sparsimque pilosae mediocriter floccosae sparsim glandulosae obscurae. Pedunculi canotomentosi sparsim glandulosi pilis solitariis obsiti. Flores saturate lutei, stylus fuscus, achaenia atra.

Hab. in Tirolia: Pontigl iuxta iugum Brenner; Ried p. Sterzing, praesertim ad ferro-viam versus Sterzing (Murr).

Variat: b) *minuteglandulosum* M. et Z. l. c. Involucris pedunculique subsparsum minuteque glandulosi. — Ibidem.

Tab. 62. *H. caesium* Fr. ssp. *euroides* M. et Z. (e loco classico). 1. Dentes ligularum. 2, 3. Squamae. 4. Pedunculus sub involucri. 5. Portio e parte aversa folii caulini.

Ex Helvetia rhaetica addo subspeciem similem *H. Davallianum* Zahn, inter *H. vulgatum irriguum* et *H. bifidum* intermedium, capitulis subatis in margine squamarum tantum subfloccosis modice v. sat dense breviterque pilosis (pilis basi atris) et mediocriter glandulosis; pedunculis mediocriter pilosis et subglandulosis, reliqua fere prioris. *H. irriguo* magis affine. — Prope Samaden (Muret), Davos (Zahn), Parpan (Touton), in v. Samnaun (Kaesler).

Subspecies *pseudopallescens* Zahn. — Caulis ad 40–60 cm altus gracilis striatus breviter subpilosus subfloccosus. Folia rosularia 2–4 sat longe petiolata oblonga v. subovata saepe sat magna breviter subpilosa supra glabrescentia, in nervo dorsali petioloque densius pilosa denticulata v. subdentata; caulina 3 remota sat magna, inferiora ± subpetiolata ovato-lanceolata acuminata acuta utrinque 3–4 dentibus haud grossis praedita, superius utrinque longe attenuatum sessile, omnia basi cuneata dilute viridia subglaucescentia mollia tenuia. Inflorescentia valde suprafastigiata altefurcata v. laxa paniculata, acladium 5–7 cm longum, rami primarii 1–3 remoti elongati apice ramosi 2–5 cephalii, capitula 3–10. Involucrum 9–10 mm longum ovatum, squamae angustae acutae sat dense floccosae sparsim breviterque pilosae fere eglandulosae obscure virides margine pallidiores. Pedunculi canotomentosi sparsim pilosi glandulosique tenues. Flores subdilute lutei, stylus demum fuscescens, achaenia atra.

Hab. in Bosnia occidentali: p. Travnik (leg. E. Brandis).

Prius pro vero *H. pallescens* W. Kit. habui, at nunc *H. caesio* adscribo.

H. pallescens verum W. Kit., Pl. rar. Hung. (1802–1812) III p. 241, tab. 217, est sine dubio *H. incisum* gregi *Trachseliano* valde affine.

Plantam persimilem e commixtione Hieracii ramosi ssp. lentiginosi et *H. bifidi* ortam ergo formidam [*H. Dollineri-vulgatum*] silvaticum exhibentem quam in schedis ssp. *divisiforme* nominavimus, amicissimus Murrius reportavit e faucibus Buco di Vela pr. Trient.

Tab. 63. *H. caesium* Fr. ssp. *pseudopallescens* Zahn (e loco classico). 1. Dentes ligularum. 2. Squama. 3. Pedunculus sub involucri. 4. Achaenium.

39. *Hieracium ramosum* W. Kit. = *vulgatum-glaucum* Zahn; W. Kit., Pl. rar. Hung. III (1802—1812) p. 240 tab. 216, et herb.; Fries, Epicr. p. 100; Symb. p. 114; Koch, Syn. ed. 2 II p. 521; Grieseb., Comm. p. 45; Sendtner, in Flora (1854) p. 340; etiam Willd., Spec. pl. III p. 1579; Froel., in DC. Prodr. VII p. 221; Zahn, in Koch Syn. (1901) p. 1817; *H. Sendtneri* Naeg. = *H. ramosum* Reichb., Comp. tab. 169.

Habitus omnino ut in *H. vulgato*, sed involucra pedunculique ± dense floccosa saepissime sparsim glandulosa et breviter subpilosa v. fere epilosa. Rhizoma crassum saepe pluricaule. Caulis 30—100 cm altus subpilosus v. sparsim breviterque pilosus fere usque ad basin subfloccosus tenuis v. gracilis aut crassiusculus, inferne saepe ut etiam pars aversa foliorum ± violaceus. Folia rosularia pauca v. subnumerosa petiolata utrinque cito v. sensim attenuata obovata ovato-lanceolata v. oblongo-lanceolata et lanceolata obtusa v. acuta, in margine nervoque dorsali ut etiam in petiolo breviter subpilosa, subtus disperse pilosa, supra sparsim pilosa v. fere glabra v. utrinque glabra, in margine nervoque dorsali et in petiolo tantum sparsim pilosa, interdum supra ± maculata, denticulata v. dentata v. grosse sinuato-dentata; caulina 4—6—10, inferiora subpetiolata, reliqua basi ± longe attenuata sessilia v. basi cuneata, omnia sensim decrescuntia subremota radicalibus similia, in nervo dorsali saepe subfloccosa, saturate viridia saepe subglaucescentia ± rigida. Inflorescentia ± indeterminata laxa paniculata v. albefurcata squarrosa, acladium 10—35 (—80) mm, rami primarii 2—4 (—6) v. complures elongati saepe foliosi apice 1—2 (—3) pliciter ramulosi, caulis interdum iam a basi in ramos elongatos patentes divisus, capitula saepissime subnumerosa v. numerosissima. Involucrum 9—11 mm longum oblongo-ovatum basi rotundatum demum ± truncatum, squamae sat angustae acuminatae obtusae v. acutiusculae, interiores saepe acutae, obscurae dilute marginatae mediocriter v. ± dense floccosae (praecipue in margine) disperse v. submodice breviterque pilosae v. fere epilosae, saepissime glandulis solitariis v. paucis adpersae rarius mediocriter glandulosae. Pedunculi, quoad indumentum, similes. Bractaeae ad 4 sub involucri ± confertae. Flores varie lutei, ligulae apice glabrae, stylus luteus v. obscurus, achaenia fere atra.

Hab.: Helvetia, Germania australis, Austria, Hungaria. — Fl. Jun.-Aug.

Dispositio gregum:

- a. *Sendtneri* Zahn, in Koch Syn. (1901) p. 1817; = *vulgatum-glaucum*. Omnino intermedium inter *H. vulgatum* et *H. glaucum*. Phyllopodum, caulis minus foliosus, acladium 25—40 (—80) mm longum.
- b. *Ramosum* Zahn, in Koch Syn. l. c.; = *vulgatum* > *glaucum* v. etiam *vulgatum-caesium* v. interdum *vulgatum* > *bifidum* aut *laevigatum-caesium* etc. Habitus ut in *H. vulgati* grege *Acuminato*. Phyllopodum v. hypophyllopodum, caulis densius foliosus, acladium 10—40 mm longum.

a. *Sendtneri* Zahn.

Subspecies **lentiginosum** M. et Z., apud Murr, in Oesterr. bot. Zeitschr. (1903) p. 422. Caulis 50—75 cm altus crassiusculus striatus erectus subfloccosus basin versus subpilosus. Folia radicalia 3—6 sat magna petiolata ovato-lanceolata utrinque attenuata acuta utrinque pluridentata, in margine nervoque dorsali ut etiam in petiolo pilis 1—3 mm longis subpilosa, in parte aversa sparsim breviterque pilosa, supra glabra distincte maculata maculis ± confluentibus, omnia saturate viridia glaucescentia, exteriora saepe minora obovata subobtusata;

caulina 2—5 remota sensim minora, inferiora subpetiolata, superiora basi angustata sessilia sat longe acuminata, in bracteis decrescentia, in nervo dorsali v. in tota parte aversa subfloccosa. Inflorescentia albefurcata, acladium 1—3 cm longum, rami primarii graciles 3—4 remoti erecti simpliciter ramulosi 1—3 cephalii, capitula 3—10 interdum ex parte non evoluta. Involuerum ad 11 mm longum ovatum crassiusculum, squamae sublatiusculae acuminatae ± obtusae, interiores ± acutae, obscurae dilute marginatae mediocriter floccosae et pilosae fere eglandulosae. Pedunculi canotomentosi pilis solitariis praediti fere eglandulosi. Flores saturate lutei, stylus luteus, achaenia atra.

Hab. in colle Doss S. Rocco (Evers) et in faucibus Buco di Vela p. Tridentum s. calc. (Murr).

Secundum Murrium l. c. intermedium inter *H. vulgatum* (Grex Maculatum) et inter *H. Dollineri* Sch.-Bip. ssp. *fucatum* Zahn (tridentinum Evers, non N. P.).

Tab. 64. *H. ramosum* W. Kit. ssp. *lentiginosum* M. et Z. (e loco class.). 1. Squama exterior. 2. Squama interior. 3. Pedunculus sub involucrio. 4. Nervus dorsalis folii tertii caulini (pars inferior). 5. Achaenium.

Subspecies **Sendtneri** Naeg., apud Grenli, Exk.-Flora d. Schweiz ed. 3 (1878) p. 260; *H. ramosum* Sendtner, in Flora (1854) p. 339; *H. ramosum* ssp. *Sendtneri* Zahn, in Koch Syn. (1901) p. 1817. — Caulis 30—50 cm altus tenuis v. gracilis breviter sparsimque pilosus, inferne saepe purpureo-violaceus. Folia rosularia 3—6 petiolata ovato-lanceolata v. lanceolata utrinque brevius longius angustata, exteriora obtusiuscula pleraque acuta, omnia sat mollia supra saturate viridia subglaucescentia, supra glabra, in margine nervoque dorsali ut etiam in petiolo breviter subpilosa (0,5—2) mm, utrinque serrato-dentata, in parte inferiore saepe ± floccosa; caulina 4—6 (—10) saepe profundius et uberius serrato-dentata. Involuerum ovatum, squamae angustae acuminatae obtusiusculae v. acutae disperse v. sat dense floccosae sparsim breviterque pilosae v. fere epilosae glandulis solitariis obsitae. Pedunculi dense floccosi canotomentosi glandulis nonnullis praediti. Rami primarii 2—4 (—6) simpliciter ramulosi, capitula (1—) 3—10 (—25). Stylus ± obscurus initio saepe subluteus.

Variat: α) **genuinum** Zahn.

- 1) **normale** Zahn. Folia ± oblongo-lanceolata, caulina 5—8 (—10) radicalibus ± similia. — Bavaria australis: Ad fl. Isar prope Monacum (Sendtner) etc., pr. Mittewald (Murr).
- 2) **oligophyllum** M. et Z. Folia caulina 3—5 lanceolata. — Ibidem et in Tirolia: Leithen p. Seefeld (Murr).
- β) **argutidens** Fries! Hier. europ. exs. 96; nec Nyman, Consp. II (1879) p. 443; *H. ramosum* ssp. *argutidens* Zahn, in Koch Syn. l. c. — Folia omnia lanceolata utrinque aequaliter attenuata regulariter serrato-dentata (haud grosse dentata) rigida. Involuerum dense floccosum. — Prope Monacum (Sendtner). — Helvetia orientalis: Ardez (Bernoulli). Tirolia occident: inter Ried et Prutz (Kaesler).
- γ) **Curienne** Zahn. Rhizoma multicaule. Folia oblongo- (v. caulina elliptico-) lanceolata supra subpilosa, superiora ± glabra, caulina 3—5. — Helvetia rhaetica: Ad fl. Plessur p. Curiam (Bruegger), ad pedem montis Calanca p. Obervatz 590 m et inter Donath et Zillis in alluvionibus fl. Rheni (Braun).

Tab. 65, Fig. A. 1—4. *H. ramosum* W. Kit. ssp. *Sendtneri* Naeg. (α genuinum 2) oligophyllum M. et Z.), planta Tirolensis e pratis montanis p. Seefeld, leg. Murr. 1. Flos. 2, 3. Squamae. 4. Pedunculus sub involucrio.

Subspecies **sublancifolium** Murr, in Oesterr. bot. Zeitschr. (1903) p. 423; *H. vulgatum* > *glaucum isaricum* apud Murr l. c. — Caulis tenuis ad 30—40 cm altus inferne subpilosus. Folia rosularia sat longe petiolata oblongo-lanceolata v. lanceolata utrinque brevius longius acuminata acuta subdentata subtus sparsissime pilosa, in margine nervoque dorsali et in petiolo subpilosa (0,5—2 mm); caulina 2—4 lanceolata remota, inferius subpetiolatum superiora basi angustata sessilia longe acuminata acuta saepe tantum denticulata v. integerrima in nervo dorsali subtusque subfloccosa, omnia saturate viridia subglaucescentia supra glabra rigidiuscula. Inflorescentia plerumque pauciflora. Involucrum 9 mm longum, squamae angustae acutiusculae dense floccosae epilosae eglandulosae. Pedunculi, quoad indumentum, similes Stylus luteus.

Bavaria australis: In alluvionibus fluvii Isar p. Mittewald, leg. J. Murr.

Tab. 65, Fig. B. 5—7. *H. ramosum* W. Kit. ssp. *sublancifolium* Murr (e loco classico). 5. Flos. 6. Pedunculus sub involucrio. 7. Portio e parte aversa folii caulini.

Ssp. **Brennerianum** Arv.-T. (1891) in sched. et apud Zahn, in Koch Syn. (1901) p. 1817; *H. pallescens* A.-T. in sched.; Huter exsicc. (1896); *H. Sendtneri* Murr, in Doerfl., Herb. norm. no. 3122 (1894); Hellweger et Huter exs. (1896—97). Phyllopodum. Caulis 30—65 cm altus gracilis v. subcrassiusculus parum flexuosus striatus, superne epilosus sat dense floccosus, infra medium deminute floccosus, pilis dispersis basin versus subnumerosioribus mollissimis 2—3 mm longis obtectus, basi \pm violaceus. Folia radicalia vulgo 2—3 tantum evoluta, elliptica elliptico-lanceolata v. lanceolata, obtusa acutave, in petiolum mediocriter longum cito sensimque attenuata, denticulata v. inaequaliter subserrato-dentata, crassiuscula, supra fere glabra v. pilis dispersis brevibus oblecta viridia saepe subglaucescentia, subtus pallidiora haud raro \pm purpureo-violacea, molliter subpilosa, in margine nervoque dorsali et in petiolo densius pilosa 1,5—3 mm, in nervo dorsali saepissime haud multum floccosa; caulina 3—5 remota subcito decrescentia lanceolata utrinque acuminata acuta, inferius breviter petiolatum, reliqua basi longe cuneiformia, omnia subdentata v. inaequaliter et interdum sat longe serrato-dentata, subtus subfloccosa, summa lineari-lanceolata interdum etiam in parte superiore sparsim floccosa. Inflorescentia laxissime paniculata, saepe valde indeterminata et caulis usque ad basin ramosus, rami primarii (1—) 2—4 (—9), inferiores valde elongati oblique erecti foliosi, ordines axium 3, acladium 20—40 (—50) mm longum, capitula (2—) 3—10 (—30), sed saepissime in apicibus ramorum 1—2 tantum evoluta inferiora aborta et rarissime plus quam 12 capitula etiam in formis vegetis evoluta. Involucrum 9—10 mm longum ovatum denique depressum basi truncatum, squamae sublatiusculae cito acuminatae acutiusculae v. acutae, obscurae, interiores in margine pallide-virides, exteriores subobtusiores sublaxae, omnes disperse breviterque pilosae, pilis apice dilutis basi obscuris, et dense densissimeve floccosae, interdum basin versus obscure cinereae, sed omnino eglandulosae. Pedunculi obscure cani sparsim brevissimeque pilosi eglandulosi rarissime glandulis valde solitariis muniti. Bractaeae 3—5 parvae. Flores dilute lutei, ligulae apice glabrae, stylus luteus denique fuscescens, achaenia fere atra, 3 mm longa.

Hab. Tirolia: ad rupes schist. in valle „Wipptal“ pr. Unterschönberg, 850 m, haud

procul ab Innsbruck, ad rupes formationis Nagelfluhe supra villam Weiherburg pr. Innsbruck, pr. Schoenwies non procul ab Landeck (Murr).

Exsicc.: Doerfler, Herb. norm. no. 3122.

Tab. 66. *H. ramosum* W. Kit. ssp. *Brennerianum* A.-T. (e loco classico „Schoenberg“ ad viam quae ducit versus iugum Brenner, leg. Murr). 1. Flos. 2. Squama interior. 3. Squama exterior. 4. Pedunculus sub involuero.

40. Hieracium Hayekii Murr, in sched. herb. de Hayek (1898) et secundum Zahn, in Koch Syn. (1901) p. 1814; = **vulgatum-porrifolium**.

Caulis tenuissimus, inferne pariter ac petiolorum basis purpureus, omnino epilosus, eglandulosus, effloccosus, 30—40 cm altus. Folia rosularia 1—4, interdum ex parte emarcida, longe petiolata, lanceolata, obtusiuscula v. acutiuscula, remote denticulata v. inconspicue sinuato-subdentata, rigidiuscula, sordide viridia subglaucescentia, epilosa, in margine nervoque dorsali tantum sparsissime breviterque ciliata, interiora saepe ± disperse floccosa, in petiolo disperse pilosa, basin versus pilis longioribus munita; caulina 2—3 sensim decrescentia remota, infimum radicalibus simile, breviter petiolatum v. attenuatum-subpetiolatum, summum lineari-lanceolatum, basin versus attenuatum subpetioliforme, integerrimum, subtus disperse floccosum. Inflorescentia ± indeterminata 1— oligocephala, acladium 4—8 cm longum, rami primarii 1—2 remoti. Involucrum ovatum rotundatum 8—9 mm longum, squamae angustae, nigro-virides alboviridi-marginatae, obtusae, mediocriter v. basin versus dense floccosae sparsim breviterque pilosae, pilis basi atris, ± eglandulosae. Pedunculi apice subincrassati, superne tantum mediocriter floccosi. Bractee 3—4 parvae. Flores aureolutei, stylus denique obscurus, ligulae apice glabrae, achaenia subnigra. — Flor. Jul.

Hab. ad silvarum margines p. Aflenz, Stiriae superioris (A. de Hayek)!

Habitus *H. vulgati* Fr. foliis lanceolatis leviter dentatis parum numerosis, sed capitula ut in *H. porrifolio*.

Tab. 67. *H. Hayekii* Murr. Fig. A. Planta florifera, Fig. B. planta fructifera (e loc. class., leg. A. de Hayek). 1. Margo ligularum. 2. Squama interior. 3. Squama exterior. 4. Pedunculus sub involuero. 5. Achaenium.

41. Hieracium Dollineri Schultz-Bip. 1828; F. Schultz, in Flora (1850) p. 212; Archives (1850) p. 178; Archives (1854) p. 17; Fl. gall. germ. exsicc. no. 1285; Sendtner, in Flora (1854) p. 338; Neilreich, Krit. Zus. Hier. (1871) p. 470; Uechtr., Deut. bot. Monatsschr. (1884) p. 18; Zahn, in Koch Syn. (1901) p. 1814; *H. argutum* β) *Dollineri* Fries, Hier. europ. exs. no. 93^{ter}; *H. intermedium* Vest, in Flora 1820 p. 5; Froel., in DC. Prodr. VII p. 236; nec Lapeyr.; *H. graveolens* Dolliner, in Maly, Enum. (1848) p. 151; nec Froel.; *H. bifidum* Hausm., Fl. v. Tirol III (1854) p. 541 u. Verh. zool.-bot. Gesell. Wien VIII p. 374; non Kit.; *H. canescens* Link, Enum. hort. Berol. II (1822) p. 288, secundum Fries, et Fries, Epicris. (1862) p. 99; nec Schleicher, Catal. et exsicc.! (1815); *H. laevigatum* Froel., in DC. Prodr. VII (1838) p. 220; Griseb., Comm. p. 39; Sendtner, in Flora (1854) p. 337; Reichb. f., Comp. tab. 163 fig. 1; = **vulgatum-glaucum** F. Schultz, in Flora (1850) p. 212; Zahn l. c.; „ambiguum est inter *Glaucum* et *Vulgatum*, eximie quoque vergit ad *Glaucum*“ Griseb. l. c. [Conf. etiam Uechtritz, in Deut. bot. Monatsschr. (1884) p. 18, et J. Murr, in sched. ad herb. norm. cent. XXXII p. 52 (1897)].

Rhizoma crassiusculum saepe pluricaule ± obliquum. Caulis 25—65 cm altus, inferne ± pilosus, usque ad basin deminute floccosus v. superne tantum subfloccosus v. effloccosus.

Folia rosularia numerosa (ad 10) vulgatiformia, exteriora parva obovato-spathulata v. elliptica, obtusiuscula, saepe emarcida, interiora oblongo-lanceolata lanceolatave \pm longe acuminata acuta, omnia in petiolum longum v. sat longum sensim (exteriora brevius angustiusque) attenuata, dentata v. \pm grosse longeque dentata, dentibus inaequalibus saepe antrorsum versis et longe prominentibus, rigida v. sat mollia, gramineo- v. saturate viridia glaucescentia, interdum supra maculata; caulina 1—3 cito decrescentia, lanceolata v. anguste lanceolata basin versus longe attenuata interdum subpetiolata, radicalibus conformia simili modo dentata vel secundum lineari-lanceolatum aut longe lineare, at \pm conspicue denticulatum, summum in bracteas subulatas decrescens. Inflorescentia laxa paniculata v. altefurcata + squarrosa, acladium 20—50 (—80) mm longum, rami primarii 2—5 (—8) remoti, interdum ex omni ala enati, inferiores interdum haud evoluti v. capitulis inferioribus abortis, arcuato-erecti apicem versus simpliciter ramosi, capitula pauca v. 10 (—20) evoluta. Involucrum 10—12 mm longum \pm ovatum basi rotundatum v. subtruncatum, squamae subangustae v. latiusculae, obtusae v. acutiusculae, nigrovirides, saepe pilis stellatis densis obtectae et subincanae, interdum tantum mediocriter floccosae. Bracteae 2—5 saepe sub involucrio confertae. Pili in involucrio dispersi v. mediocriter numerosi, pedunculi superne \pm disperse pilosi, caulis basin versus tantum modice pilosus v. fere epilosus, folia supra glabra, subtus disperse molliterque pilosa et frequenter subfloccosa, in margine breviter subciliata, in nervo dorsali petioloque mediocriter breviterque pilosa v. sat dense longeque subvillosa, sed interdum folia \pm glabra. Glandulae in involucrio et in pedunculis vel nullae v. dispersae aut \pm numerosae, caulis saepissime eglandulosus. Flocci: involucrum albido-canum mediocriterve tantum floccosum, in margine fere semper densius floccosum, pedunculi canotomentosi v. apice tantum dense floccosi inferne cito effloccosi, v. caulis \pm usque ad basin disperse floccosus. Flores saturate lutei, ligulae apice glabrae, stylus luteus denique saepissime fuscus v. obscurus, achaenia subatra.

Habitat in ditone *H. glauci*. — Flor. (Maio-) Junio-Julio (in praealpinis etiam Augusto).

Dispositio gregum:

- a. *Eriopodium* Zahn, in Koch Syn. (1901) p. 1815. Involucrum \pm dense floccosum (raro disperse floccosum) et breviter pilosum v. fere epilosum, pariter ac pedunculi eglandulosus, rarissime glandulis sparsis vel dispersis praeditum.
- b. *Dollineri* Zahn l. c. p. 1816. Involucrum \pm (saepe dense) floccosum, praeterea mediocriter denseve glandulosus; pedunculi fere eglandulosi v. \pm dense glandulosi.

a. *Eriopodium*.

1. Folia sparsim disperseve tantum pilosa.

Ssp. **gadense** Wiesbaur, Oesterr. bot. Zeitschr. (1881) p. 271 et 302; G. de Beck, Fl. Niederoesterr. (1893) p. 1894; *H. apricorum* Wiesb. exs. pp.; *H. oxyodon* A.-T. in sched., nec Fr.; *H. Trachselianum* v. *gadense* A.-T. in sched. — Inter *H. eriopodium* et *H. glaucum*. Tota planta fere glabra. Caulis 30—45 cm altus epilosus, interdum caulis lateralis evolutus. Folia radicalia exteriora elliptica acutiuscula, reliqua late lanceolata vel lanceolata longius petiolata, utrinque brevius longiusve attenuata acuta v. longe acuminata acutioraque, leviter acuteque repando-dentata, glaucescentia, rigida, in margine nervoque dorsali et in petiolo tantum sparsim ciliata; caulina c. 2 (—4) anguste- v. lineari-lanceolata, inferius subpetiolatum vulgo denticulatum, reliqua elongata saepissime integerrima utrinque attenuata, summa linearia. Inflorescentia alte furcata indeterminata, acladium 4—10 (—13) cm longum, rami primarii 2—4, inferiores valde remoti elongati bracteati oblique patentes, ordines axium 3,

capitula pauca v. ad 10 evoluta. Involucrum 9—10 mm longum ovatum, squamae subangustae acutiusculae, \pm disperse floccosae sparsim pilosae, interdum glandulis solitariis obsitae. Pedunculi apice leviter incrassati et subfloccosi. Bractee ad 6 parvae \pm remotae. Flores dilute lutei, ligulae apice glabrae, stylus obscurus, achaenia subatra.

Austria inferior: Anninger p. Gaden haud procul ab Vindobona (Wiesbaur), inter Merkenstein et „Waldandacht“ pr. Voelsau, Weitzklamm pr. Weitz (Hayek), in declivibus saxosis inter Trauch et Ottersbauer, 700 m, ad pedem merid. m. Goesing et in m. „Kalenderberg“ p. Moedling (G. de Beck), pr. Kalksburg: Liechtenstein etc. (Wiesbaur). — Flor. Jun.-Jul.

Tab. 68; Fig. A. 1—3. *H. Dollineri* Sch.-Bip. ssp. *gadense* Wiesb. (e loc. class. Liechtenstein pr. Kalksburg, leg. Wiesbaur). 1. Margo ligularum. 2. Squama. 3. Pedunculus sub involucrio.

Ssp. *glaucogenes* Murr et Zahn. Caulis gracilis subtiliter striatus epilosus usque ad basin disperse minutissimeque floccosus, 30—35 cm altus, basi saepe subviolaceus, rhizoma saepe pluricaule. Folia rosularia numerosa ad 12 evoluta, rigidiuscula, gramineo-viridia haud multum glaucescentia saepe subtus v. etiam in parte superiore violaceo-colorata, brevius longius petiolata v. fere sessilia, exteriora lanceolata utrinque attenuata acuta argute denticulata v. subdentata, interiora anguste linearive lanceolata subdenticulata longissime acuminata, omnia in margine nervoque dorsali et in petiolo tantum sparsim disperse brevipila, subtus sparsim mediocriterve floccosa; caulina 2—3 valde decrescentia lineari-lanceolata v. longe linearia integerrima subfloccosa, v. infimum tantum anguste lanceolatum et subdenticulatum. Inflorescentia laxa paniculata v. alte furcata squarrosa subindeterminata, rami primarii 1—3 (—5), inferiores valde remoti, ordines axium 3, acladium 3—7 cm longum, capitula vulgo 2—5, rarissime numerosiora sed inferiora haud evoluta. Involucrum 10 mm longum ovatum denique basi truncatum, squamae satis regulariter imbricatae, subangustae acuminatae acutae apice saepe obscuriores, exteriores subangustiores acutiusculae, omnes subobscurae, omnino v. praesertim in margine sat dense floccosae, praesertim basin versus subcinereae, pilis solitariis glandulisquenullis v. rarissime valde solitariis adspersae, interiores margine subpallidiores acutissimae. Pedunculi sub involucrio leviter cani, inferne citissime deminut effloccosi, utrinque epilosii eglandulosi rarissime superne pilis valde solitariis praediti, apice inconspicue incrassati. Bractee ad 6 subremotae parvae squamiformes. Flores dilute lutei, ligulae apice glabrae, stylus denique obscurus, achaenia subatra.

Hab. in *Tirolia australi*: inter Toblach et Höhlenstein [Landro] (Murr), inter Niederdorf et Toblach et inter Niederdorf et Plaetzwiesen (A. et K. Touton).

Tab. 68, Fig. B. 4, 5. *H. Dollineri* Sch.-Bip. ssp. *glaucogenes* M. et Z. (inter Toblach et Landro, leg. Murr). 4. Squama. 5. Pedunculus sub involucrio.

1*. Folia in margine nervoque dorsali et praesertim in petiolo mediocriter v. \pm dense et \pm longe pilosa.

2. Involucra et pedunculi rarissime tantum glandulis nonnullis munita.

Ssp. *eriopodum*¹⁾ Kerner ined. (1873); Zahn, in Koch Syn. (1901) p. 1815; *H. trachypodium* Kern olim in sched. nonnull.; *H. laevigatum* Griseb., Comm. p. 39; Schultz-Bip.,

¹⁾ Comparandi causa hic addo descriptionem exactam subspeciei *eriopodum* Kerner, iam in Reichenbachii Iconibus XIX (1862) tab. 163 fig. 1 sub. nom. *laevigatum* delineatae, at adhuc nullo loco bene perfecteque descriptae.

Cich. no. 27!; *H. Dollineri* Sch.-Bip., Cich. no. 27 et in F. Sch., Arch. de Flore p. 17; *H. gravecolens* Dolliner l. c.; *H. canescens* Fr. exsicc. et Epier. p. 99; *H. Dollineri* Sch.-Bip. l. c. pp.; *H. glauco-vulgatum* F. Schultz l. c. — Caulis gracilis interdum crassiusculus, valde striatus 45-70 cm altus, supra medium epilosus eglandulosus disperse minuteque floccosus, basin versus sparsim disperseve pilosus, interdum caulis lateralis evolutus. Folia rosularia 4-8 lanceolata v. anguste lanceolata, exteriora breviora acutiuscula, interdum \pm spathulata obtusa, interiora ad 20 cm longa 25-20 mm lata longe acuminata acuta, omnia sat mollia, basin versus in petiolum subalatum basi violaceum dilatatum et late vaginantem longe sensimque attenuata, inaequaliter subserrato-dentata v. dentibus anguste lanceolatis elongatis antrorsum curvatis saepe in petiolum descendentes munita, supra epilosa saturate viridia glauca, subtus sparsim pilosa paulo pallidiora, in margine sparsim mediocriterve ciliata (0,5-1,5 mm), in nervo dorsali subdensius pilosa, in petiolo praesertim basin versus sat dense longiusque pilosa (2-5 mm) et caulis \pm eriopodus; caulina 2-3 cito decrescentia elongata anguste lanceolata lineariave acutissima, summa subtus subeffloccosa. Inflorescentia indeterminata laxissime paniculata v. alte furcata \pm squarrosa, acladium 10-70 mm longum, rami primarii 1-4 evoluti, inferiores valde remoti saepe haud evoluti, ordines axium 2-3 (rarissime 4), capitula vulgo pauca rarius ad 10 evoluta. Involucrum 10 mm longum ovatum denique late depressum, squamae sublatiusculae acuminatae acutiusculae v. acutae subregulariter imbricatae obscurae, margine pallide virides, apice saepissime obscuriores, dense floccosae v. obscure subcinereae, fere semper eglandulosae, dorso pilis dispersis brevibus basi atris vestitae. Pedunculi sub involucrio tantum leviter cani et interdum pilis valde solitariis muniti v. epilosi et fere semper eglandulosi, inferne cito deminute floccosi. Bractee 3-6 parvae squamiformes. Flores dilute lutei, ligulae apice glabrae, stylus primo subluteus denique lividus, achenia subatra.

Hab. in glareosis saxosisque calcareis Bavariae: in valle fl. Isar pr. München (Molendo), Grosshesselohe (Weiss), Mengerschweige (Vollmann) etc.; Tiroliae: inter Fragenstein et Seefeld (Kerner 1873, sub nom. trachypodum), pr. Zirl et in valle Halltal pr. Innsbruck (Murr, Hellweger), Lienz (Gander); Stiriae: Hochschwab (de Benz), Graz 550 m (Preissmann); Carinthiae: Schlitzaschlucht p. Tarvis (v. Benz); Carniae: Idria (Dolliner 1862); Helvetiae: Landquart et pr. Curiam (Bruegger), pr. Grengiols in Valesia (Jacquet).

Variat α) **genuinum** Zahn. Vide supra.

β) **subglaucum** Murr et Zahn, in Koch Syn. (1901) p. 1816. Folia minus pilosa intense glauca, saepe in petiolorum basi tantum subpilosa. — In valle „Halltal“ (Murr), inter Lavant et Nikolsdorf (Ausserdorfer), Kerschbaumer Alpe et Kraitmayerhof pr. Lienz, Innervillgraten, Ebenkofl pr. Sexten (Gander); pr. Kirchbach in Carinthia superiore (Ausserdorfer); ad limites italico-tirolenses: ad ripas fl. Boita pr. Ampezzo (Huter).

Exsiccata: Doerfler, Herb. norm. no. 3148; Sch.-Bip., Cich. no. 27.

2*. Involucra et pedunculi superne semper glandulis sparsis v. dispersis obsita (cfr. tamen var.

β ssp. fucati).

3. Caulis basin versus tantum sparsim disperseve pilosus.

Ssp. **fucatum** Zahn; *H. Tridentinum* Evers in sched. (1890); Beitr. Fl. Trentino in Verh. k. k. zool.-bot. Ges. Wien (1896) p. 31 (sub *illyricum*); Zahn, in Koch Syn. (1901) p. 1816; nec N. P.; *H. bifidum* Hausm. l. c. pp. et in sched.; *H. Trachselianum* v. *tridentinum*

A.-T. in sched.; *H. Dollineri* v. *austriacum* Gelmi, in Baenitz, Herb. europ. — Caulis gracilis subtiliter striatus, superne sat dense farinoso-floccosus usque ad basin subfloccosus, inferne mollissime subpilosus basi dense eriopodus, 35—45 cm altus. Folia rosularia numerosa ad 10 evoluta dilute viridia glaucescentia subrigidiuscula, supra sublucida saepe ± maculata, exteriora minora elliptico-lanceolata v. oblonga obtusiuscula, supra saepe disperse pilosa, florendi tempore saepe subemarcida, reliqua supra glabra, longiora, lanceolata utrinque attenuata subulato-petiolata acuta, intima angustiora longe acuminata acutiora, omnia argute denticulata v. saepissime inaequaliter serrato-dentata, interdum dentibus lanceolatis inaequaliter longis longe productis munita, subtus molliter subpilosa, in margine sat dense breviterque ciliata, in nervo dorsali basin versus et in petiolo sat dense pilosa v. pilis mollibus ad 6 mm longis subvillosa, in petioli basi saepe dense villosa; caulina 2—3 cito decrescentia lanceolata v. angustiora lineariave dentata, subtus omnino v. in nervo dorsali tantum pilis stellatis sparsis v. subnumerosis oblecta. Inflorescentia alte furcata v. laxissime paniculata subsquarrosa, acladium 25—70 mm longum, rami primarii 1—3 (—6), inferiores valde remoti, ordines axium 3, capitula 2—5 (—15). Involucrum crasse ovatum 10—12 mm longum denique ventricosum-depressum, squamae sublatiusculae acuminatae obtusiusculae v. interiores acutae, exteriores subangustiores, omnes obscurae (intimae margine pallide virides v. pallidae apice saepe obscuriores), dense floccosae obscure cinerae, pilis subdispersis subnumerosisve obscuris basi atris 1—1,5 mm longis, glandulisque dispersis v. sparsis obscuris vestitae. Pedunculi graciles apice saepe sat conspicue incrassati, sub involucrio leviter canotomentosi sparsim breviterque pilosi et glandulis nonnullis obscuris adpersi, inferne dense floccosi fere epilosii, eglandulosi. Bractee 3—5 squamiformes. Flores dilute lutei, ligulae apice glabrae, stylus denique obscurus, achaenia subatra.

Variat: $\alphagenuinum Zahn, in Koch Syn. (1901) p. 1816. Ut supra. — Tirolia australis: Ponte alto pr. Trient (Evers, Murr), Loppio-Nago (Murr).$

β) **glaucescens** Murr et Zahn l. c.; *H. oxyodon* Freyn, Oest. bot. Zeitschr. (1887) p. 393. Folia magis glauca basin versus minus dense pilosa, involucra sparsius pilosa fere eglandulosa, pedunculi apice ad summum pilis solitariis muniti saepissime eglandulosi. — Lavini di Marco, supra Povo ad pedem m. Celva 900 m, inter Loppio et Nago (Murr), in m. Calvarienberg, „am kühlen Bründl“ et pr. Runkelstein prope Bozen (Huter, Hausmann, Murr), in iugo Groednerjöchl (de Benz), versus Seiseralpe (Grabmayr), Eggen-tal versus Karerpass (A. et K. Touton), supra Tramin versus Mandelpass et in m. Roën (Huter), Arco (Stein), Vigo di Fassa (Hellweger), V. Zelline (Huter), Gasteig pr. Sterzing (Murr); Vorarlbergia: pr. Stuben (Murr); Austria inferior: Kastenreith ad fl. Enns (Dürrnberger); Carinthia: Arnoldstein in valle Gailtal (de Benz). Italia: Perarolo in valle fl. Piave (Huter); V. Sassina et Mte Resegone supra Lecco (de Degen).

Forma horrens Murr, apud Koch Syn. (1901) p. 1816, foliis inaequaliter longeque dentatis, a Poellio in tabula 69 delineata, ceterum transitum praebet inter α et β . — Runkelstein pr. Bozen (Murr), versus Seiseralpe in m. Schlern (Grabmayr).

H. lagarinum Evers l. c. p. 31 differt a var. β : involucris sparsim pilosis saepe densius floccosis pedunculisque ± epilosis. Inflorescentia saepe subfurcata. — Lavini di Marco vallis Lagarinae pr. Rovereto (Evers).

Exsiccata: Doerfler, Herb. norm. no. 3963 (α); no. 4351 (lagarinum Evers).

Tab. 69. *H. Dollineri* Sch.-Bip. ssp. *fucatum* Zahn var. *glauescens* M. Z. f. *horrens* Murr (e loc. class.). 1. Margo ligularum. 2. Squama. 3. Pedunculus sub involucrio.

Ssp. *austriacum* (an Brittinger, Fl. O.-Oesterr. 1862 p. 67 ??) Uechtritz, in Baenitz, Herb. europ. (1876) prosp. p. 3 not. 5, exsicc. 2543, et in Oest. bot. Zeitschr. (1881) p. 204; Deut. bot. Monatsschr. (1884) p. 91. — Planta gracilior et minus elata. Caulis 20—45 cm altus striatus tenuis v. gracilis epilosus v. basin versus molliter sparsimque pilosus, superne parce floccosus. Folia rosularia numerosa 5—10 brevius longiusve petiolata lanceolata rigida viridia glaucescentia, subtus saepe violacea, exteriora saepe oblonga acutiuscula, omnia utrinque \pm longe attenuata acuta, utrinque argute inaequaliterque dentata v. subserrato-dentata interdum dentibus longioribus anguste lanceolatis in petiolum descendentibus munita, supra glabra, subtus disperse pilosa, in margine densius breviterque ciliata, in nervo dorsali et praesertim in petiolo basin versus pilis mollissimis sericeis numerosis v. sat densis obsita; caulina 2—3 cito decrescentia elongata lineari-lanceolata, inferius saepe grosse dentatum, summum saepe filiforme, omnia effloccosa v. summum floccis solitariis tantum adpersum. Inflorescentia alte furcata v. squarroso-paniculata, accladium 1—5 cm longum, rami primarii 3—6, inferiores valde remoti, ordines axium 3, capitula 3—10 (—25); haud raro 1—2 caules laterales evoluti sunt. Involucrum 8—9,5 mm longum ovatum denique depressum, squamae subangustae acutiusculae v. acutae obscurae (intimae in margine anguste pallideque virides), pilis brevibus subobscuris basi atris mediocriter numerosis, glandulis dispersis et floccis subnumerosis apicem versus rarioribus vestitae haud cinerae. Pedunculi tenues apice dense floccosi v. leviter cani, pilis glandulisque obscuris paucis adpersi, inferne valde deminute floccosi epilosii eglandulosi. Bracteae 3—7 subulatae pleraeque sub involucrio confertae et in squamas decrescentes. Flores flavi, ligulae apice glabrae, stylus primo subluteus denique obscurus, achaenia subatra.

Hab. in Austria inferiore prope Vindobonam: Rodaun (Dichtl, Wiesbaur), Baden (Wiesb.), Kalksburg (id.), Goesing (G. de Beck), Liesing (Khek), in m. Gaisberg pr. Perchtoldsdorf (Dichtl), Kl. Reifling (Steininger); Austria sup.: Wels (Zimmerer); Tirolia austr.: supra S. Giacomo in m. Baldo (Gelmi).

Exsiccata: F. Schultz, Herb. norm. cent. XIX no. 1816; Fl. exs. austro-hung. 3354; Baenitz, Herb. europ. no. 2543.

Tab. 71. *H. Dollineri* Sch.-Bip. ssp. *austriacum* Uechtr. (e m. Gaisberg, leg. Wiesbaur). 1. Squama. 2. Pedunculus sub involucrio. 3, 4. Folia rosularia.

3*. Caulis per totum albido-pilosus.

Ssp. *crinitellum* Murr et Zahn; *H. Dollineri* ssp. *tridentinum* f. *crinicaule* Murr, in Oest. bot. Zeitschr. (1902) p. 391. Caulis ad 45 cm altus coloratus, inferne intense violaceus subflexuosus, superne subpilosus, 3—4 mm, et subfloccosus inferne pilis albis subsericeis valde flexuosis subcrinitus. Folia rosularia oblongo-lanceolata lanceolatave longe petiolata, supra disperse submediocriterve pilosa subtus subpilosa, in margine densissime ciliata, in nervo dorsali petioloque pilis sericeis ad 6 mm longis subcrinita, omnia saturate viridia subrigidiuscula acute denticulata v. \pm dentata, dentibus glanduloso-mucronatis; caulina 2—3, inferius subanguste lanceolatum, reliqua linearia v. summum filiforme, omnia subtus et praecipue basin versus sat dense longeque pilosa. Inflorescentia *H. fucati*, sed capitula 10 mm longa ovata, squamae angustae acutae subfloccosae, in margine densius floccosae, breviter subpilosae

et glandulis dispersis obsitae, pedunculi utrinque subpilosi dense floccosi et sparsim glandulosi; reliqua ut in *H. fucato*.

Hab. in Tirolia australi: In m. Kalisberg supra Martignano-Maderno, Sardagna, Vezzano, Masilli, Lavini di Marco et Castel Corno pr. Rovereto (detex. et leg. J. Murr).

Addo etiam hanc subspeciem, ne ullam in tractando *H. Dollineri* formam characteristicam omittam.

b. *Dollineri*.

Ssp. ***Dollineri*** (Sch.-Bip.) F. Schultz, Arch. de Fl. (1854) p. 17; Zahn, in Koch Syn. (1901) p. 1816; *H. Dollineri* β *typicum* G. de Beck, Fl. N.-Oesterr. (1893) p. 1294. — Caulis 30–40 cm altus gracilis striatus basin versus sparsim modiceve pilosus \pm violaceus, superne disperse tenuiterque floccosus eglandulosus v. interdum disperse glandulosus. Folia radicalia subnumerosa 4–8 evoluta breviter longiusve petiolata late angustave lanceolata utrinque attenuata, exteriora breviora saepe \pm spathulata obtusa, reliqua acuminata acuta, intima acutiora, omnia rigidiuscula viridia glaucescentia, acute denticulata v. inaequaliter mucronateque subserrato-dentata interdum dentibus elongatis acutissimis antrorsum versis praedita, supra \pm glabra v. (praecipue exteriora) sparsim mediocriterve pilosa, subtus subpilosa et haud raro in nervo dorsali sparsim floccosa rarius glabriora, in margine nervoque dorsali mediocriter v. sat dense molliterque pilosa, in petiolo praesertim basin versus densius longiusque (ad 6 mm) pilosa v. subvillosa; caulina 2–3 cito decrescentia, infimum lanceolatum subpetiolatum utrinque longe attenuatum v. pariter ac medium anguste v. lineari-lanceolatum paucidentatum acutissimum, summum \pm filiforme, omnia subtus subfloccosa v. multiflocca. Inflorescentia squarroso-paniculata v. alte furcata, acladium 2–7 cm longum, rami primarii 2–6 evoluti simpliciter ramosi, capitula 2–10 (—20). Involucrum 9–10 mm longum ovatum demum basi truncatum, squamae subangustae acuminatae pleraeque acutae obscurae (interiores tantum in margine dilutiores), epilosae v. pilis obscuris basi atris sparsim disperseve obsitae, mediocriter v. dense obscureque glandulosae, mediocriter rarius densius floccosae. Pedunculi dense floccosi obscuri v. fere canotomentosi, apice tantum glandulis solitariis obsiti v. mediocriter v. sat dense et obscure glandulosi, epilosi v. sparsim disperseve pilosi. Bracteae 3–6 minutae bracteiformes, interdum glandulis sparsis obsitae. Flores lutei, ligulae apice glabrae, stylus denique lividus, achaenia subatra.

Variat $\alpha*sublaevigatum* G. de Beck, Fl. N.-Oesterr. l. c. et herb.!: Zahn, in Koch Syn. l. c.; *H. pallescens* F. Schultz, Herb. norm. cent. X no. 900^{bis}; *H. saxatile* \times *murorum* F. Schultz; *H. Schmidtii* Dolliner exs., A. Sauter exs.; *H. Styrense* Wiesb. in sched.; verosimiliter ex loco etiam *H. austriacum* Brittinger, Fl. O.-Oesterr. (1862) p. 67. — Folia subtus et in petiolo pilosa. Involucrum pariter ac pedunculi \pm dense obscureque glandulosum, glandulae saepe usque ad medium caulem descendentes.$

1) normale Zahn.

a) verum Zahn. Involucra et pedunculi epilosa. — Austria inferior: Kl. Reifling (Steininger), Brühl pr. Wien, Thernberg (Wol.), Moedling (Witting), Gloggnitz (Richter), in valle Hoellental pr. Reichenau et in saxosis m. Semmering (de Hayek); Austria superior: Steyr, Weyer (Zimmer), Zeischenberg pr. Windischgarsten (Oberleitner), Salzatal,

Hollensteiner¹⁾ Strasse, Kastenreith (Duernberger); Stiria: Foelz pr. Aflenz (de Benz); Carinthia: Malborgetgraben (Preissmann); Austria litoralis: Tribušaner Wand, Rašatal, Nakla, Sušizatal, Divača (Pospichal)!

b) subpilosum Zahn. Involucrum tantum sparsim obscureque pilosum. — Prope Steyr (Zimmerer).

2) winklingense Zahn. Involucra et pedunculi sat dense nigro-glandulosa et pilis dispersis v. subnumerosis subnigris obsita. — Prope Steyer (Zimmerer), praesertim pr. Maria Winkling (id.). Huc pertinet pp. Fl. austr.-hung. exs. no. 3371! In valle Hoellental pr. Reichenau (de Hayek).

β) **subpallescens** G. de Beck l. c. et herb.!: Zahn l. c.; *H. Schmidtii* β) *pallescens* Saut., in Reichb. Fl. exc. 2534 et exs.; *H. glaucum* Pittoni in sched.!: *H. laevigatum* Brittinger in sched.; *H. glaucum* v. *saxetanum* A.-T. in sched.; nec Fries. — Folia subtus et in petiolo pilosa. Involucrum dense glandulosum epilosum v. subpilosum et sparsim glandulosum, saepissime subdensius floccosum quam α. Pedunculi eglandulosi subcanotomentosi v. apice tantum glandulis solitariis praediti; bractae haud raro sparsim glandulosae.

1) normale Zahn. Involucra epilosa. — Austria superior: Veichtal, Waldner Höhe, Hoher Nock, Windischgarsten (Duernberger), Steyr (Zimmerer); Austria inferior: in m. Silbersberg pr. Gloggnitz (Richter), Moedling (de Hayek), Kaiserbrunn (de Halacsy), in m. Rax (Kotula) et Schneeberg (G. de Beck), in valle Nasswald (Sonklar); Stiria: plur. loc. pr. Graz (Pittoni, Preissmann), Peggau (Preissm.), in valle Logartal pr. Sulzbach 900 m (de Hayek); Austria litoralis: Mte. Kokuš, Valentinberg, in Sabotina, inter Verhovlje et Plava, Stržig pr. Goritiam, Otelca, Nanos, Rašatal, Vrabče, Basovica, Obrou (Pospichal)!, Rekatal (Justin)! — Exsicc. F. Schultz, Herb. norm. cent. XIX no. 1815; cent. XXIV no. 2358.

2) subpilosum Zahn. Involucrum minus glandulosum, sparsim pilosum, densius floccosum. Transitus Dollineri-eriopodum. — Rekatal (Justin).

γ) **apricorum** Wiesbaur, in Deut. bot. Monatsschr. (1884) p. 91; G. de Beck, Fl. N.-Oesterr. (1893) p. 1295; Zahn, in Koch Syn. p. 1816; *H. contiguum* Juratzka, Exsicc. (1856), et apud Nyman, Consp. p. 445. Variationi β valde similis, sed folia fere epilosa, in margine subciliata, in petiolo praesertim basin versus breviter pilosa, subtus sparsim sat denseve floccosa. Involucra sat dense obscureque glandulosa subfloccosa epilosa. Pedunculi eglandulosi, bractae haud raro glandulis solitariis obsitae. Habitus ut in *H. gadensi*. — Austria inferior: Prope Moedling et Kalksburg (Wiesbaur).

Tab. 70. *H. Dollineri* Sch.-Bip. ssp. *Dollineri* F. Schultz α) *sublaevigatum* (G. de Beck) Zahn 1) *normale* a) *verum* Zahn (ad viam Hollensteinensem inter Goestling et Weyer Austriae superioris, leg. Duernberger). 1. Squama exterior. 2. Squama interior. 3. Pedunculus sub involucri. 4. Portio e parte aversa foliorum. 5. Achaenium.

¹⁾ Planta ex hoc loco ab O. Leonhardt, in Katalog des Berliner bot. Tauschvereins, falso *H. Dollineri* var. *Hollensteinii* (sic!) nominabatur.

42. Hieracium Clusii Dichtl, Deutsche bot. Monatsschr. (1884) p. 102; G. de Beck, Fl. N.-Oesterr. 1893 p. 1296; Zahn, in Koch Syn. (1901) p. 1820; *H. Sommerfelti* Uechtr. apud Wiesbaur exs.; non Lindeberg; *H. Schmidtii* v. *Clusii* A.-T. in sched.! = **caesium-Schmidtii** Zahn; *carnosum-Schmidtii* Zahn, in Koch Syn. l. c. — Rhizoma crassum, caulis 15—55 cm altus gracilis saepe subflexuosus, superne subfloccosus, inferne ± disperse pilosus. Folia rosularia saepissime numerosa (4—8), exteriora obovata v. ± elliptica saepe subobtusata, reliqua late lanceolata v. oblongo-lanceolata utrimque attenuata brevius longiusve petiolata acuta vulgatiformia, ± sinuato-dentata v. basin versus saepe inciso-dentata, dentibus anguste lanceolatis acutis, supra saepissime glabra saepe brunneo-maculata, subtus ± disperse breviterque pilosa et praesertim in nervo dorsali subfloccosa, in margine dense subsetaceo-ciliata et glandulis valde solitariis obsita, in nervo dorsali et praecipue in petiolo longe (ad 6 mm) pilosa ± villosa, omnia rigida; caulina 0—1 (—3) saepe anguste lanceolata. Inflorescentia altefurcata v. laxa paniculata subsquarrosa suprafastigiata, acladium 3—5 (—10) cm longum, rami primarii 1—2 (—3) remoti arcuato-patentes, ordines axium 2—3, saepe iam superior pleiocephalus, capitula 2—7 (—10). Involucrum 11—14 mm longum crassiusculum ovatum denique globosum, squamae basi sublatiusculae apicem versus acuminatae acutiusculae acutaeve, obscurae dilutius marginatae subfloccosae in margine densius floccosae, mediocriter obscureque glandulosae et pilis sat densis ± crispis dilutis basi atris vestitae. Pedunculi superne cinerei, subdense glandulosi disperseque pilosi. Bracteae 4—6 parvae. Flores et styli lutei (h idemque fusciscentes), ligulae apice breviter ciliatae, alveoli in margine setaceo-subfibrillosi, achaenia nigro-brunnea.

Hab. Austria inferior: in saxosis silvaticis m. Calvarienberg pr. Gumpoldskirchen (Dichtl, Wiesbaur), Neuwaldegg (Preissmann). Germania borealis: in valle „Bodetal“ Hercyniae silvae (Roemer)!

Tab. 72. *H. Clusii* Dichtl (e loc. class. Gumpoldskirchen, leg. Wiesbaur). 1. Margo ligularum. 2. Alveolus. 3. Squama. 4. Pedunculus sub involucrio. 5. Portio e parte aversa foliorum.

43. Hieracium Annae Toutoniae Zahn = **Dollineri-Schmidtii** Zahn. Habitus *H. Dollineri* Sch.-Bip. Caulis gracilis saepissime subflexuosus striatus phyllopodus 25—65 cm altus, interdum caules laterales evoluti sunt. Folia rosularia 3—4 (—7) subrigidiuscula brevius longius (3—10 cm) petiolata, pleraque lanceolata (exteriora saepe latiora, interiora angustiora), in petiolum longe attenuata, exteriora obtusiuscula, interiora acuta v. longe acuminata, omnia mucronata, subdenticulata v. remote subdentata; caulina 1—2 anguste lanceolata v. linearia, interdum unum tantum evolutum, bracteiforme; omnia supra dilute subobscureve viridia subglaucula, subtus pallidiora. Inflorescentia altefurcata v. laxa paniculata, rami primarii (1—) 2—3, inferiores saepe valde remoti elongati apice ramosi, ordines axium 2—3 (rarissime 4), acladium 2—4 cm longum (rarissime longius), capitula 2—5 (—10). Involucrum (10—) 12 mm longum late ovatum denique rotundatum. Squamae sublatiusculae acuminatae acutae, exteriores laxae obscurae, interiores dorso obscure canae, margine late virides. Bracteae 1—3 subulatae obscure canae rarissime submarginatae. Pili in involucrio sparsi breves, basi atri, curvati. Pedunculi et caulomata superne epilosa. Caulis infra medium et praesertim basin versus pilis dispersis vel modice numerosis mollibus albidis 1—2 mm longis obsitus, folia supra glabra v. sparsim pilosa, marginem versus disperse, in margine ipso sat dense pilosa (2 mm), in petiolis dense pilosa, pilis ad 5 mm longis albidis, in parte inferiore

disperse-, in nervo dorsali mediocriter v. sat dense pilosa. Glandulae in involucri modice numerosae obscurae, in pedunculis superne solitariae, inferne nullae, in foliorum marginibus solitariae. Flocci involucri mediocriter numerosi, in squamarum margine interdum densiores. Pedunculi dense floccosi v. albido-cani denique obscure viridi-cani, caulis usque ad basin deminute floccosus. Folia subtus effloccosa v. parcefloccosa, in nervo mediano petioloque mediocriter floccosa, supra glabra v. caulina in nervo mediano sparsim floccosa. Flores lutei, dentes ligularum saturate lutei glabri, stylus fuscus, achaenia castanea 3—3,5 mm longa; receptaculum irregulariter breviterque fimbriato-ciliatum.

Hab. In rupibus „Crap Sasella“ p. Samaden Engadinae superioris (Anna et K. Touton m. Juli 1904). — Flor. Jul.

Inter *H. Dollineri* ssp. *fucatum* Zahn et *H. Schmidtii* v. *H. pseudocyaneum* Zahn intermedium. Hanc formam unice insignem dedico dominae Annae Touton, quae comes mariti nobis amici Dⁿⁱ Caroli Touton Mattiacensis studio indefesso Hieraciorum genus colit investigatque.

Tab. 73. *H. Annae Toutoniae* Zahn (e loco class.). 1. Margo ligularum. 2. Squama. 3. Pedunculus sub involucri. 4. Marginis foliorum portio.

44. Hieracium tephropogon Zahn, in Koch Syn. (1901) p. 1820; *H. subincisum* A.-T. in sched. et apud Murr, in Deutsche bot. Monatsschr. (1897) p. 322; = **Dollineri-incisum** Zahn l. c.

Habitus *H. Dollineri* aut *H. incisi*. Rhizoma crassiusculum. Caulus 30—40 cm altus gracilis striatus subpilosus saepe usque ad basin subfloccosus et ± violaceus, interdum caulis lateralis evolutus. Folia rosularia numerosa petiolata ovata v. elliptica v. medio-oblongo-lanceolata interiora lanceolata, basi truncata aut utrimque ± attenuata, obtusa aut acuminata et ± acuta, saepissime dentata v. dentibus saepissime subnumerosis grosse sinuato-dentata v. inciso- et subserrato-dentata, ± glaucescentia, dilute vel obscure viridia, supra glabra et saepe ± maculata, in margine subtusque subpilosa, in nervo dorsali saepissime longius densiusque pilosa, haud raro pariter ac in petiolo saepe violaceo subcrinita, saepe utrinque pilosa et subtus subfloccosa, sat mollia v. subrigidiuscula; caulinum 1, raro 2 evoluta, lanceolatum utrinque attenuatum, saepissime grosse dentatum, saepissime subtus subfloccosum. Inflorescentia subdeterminata laxa paniculata 2—7 (—10) cephalis, rami primarii 1—3, ordines axium 2—3, acliadium (1—) 2—4 (—6) cm longum interdum longius. Involucrum ad 12 mm longum crasse ovatum denique ventricosum, squamae sublatiusculae, exteriores obtusiusculae pleraeque acuminatae acutiusculae v. (praecipue interiores) longe acuminatae acutae, omnes subobscurae, interiores margine subvirides apice saepissime obscurae, sat dense floccosae et pilis 1—2,5 mm longis canis basi atris crassiusculis breviter villosae ut in *H. inciso*, plerumque eglandulosae. Pedunculi obscure cano-tomentosi pilis basi atris sat densis v. subnumerosis obsiti eglandulosi v. interdum glandulis solitariis praediti. Bractee 2—4 minutae. Flores saturate lutei, ligulae apice glabrae, stylus obscurus, achaenia subatra.

Tirolia australis, in consortio *H. Dollineri* ssp. *fucati* et subspecierum consimilium. — Flor. exeunte m. Aprili, Maio—Junio.

Nulla modo inter *H. Dollineri* et *H. incisum* hybridum, ut ex formula forsitan concludatur, sed nihil aliud nisi forma intermedia quoad habitum et characteres inter *H. Dollineri* et *H. incisum*, *H. bifido* valde affinis.

Subspecies **pseudotridentinum** Zahn, in Koch Syn. (1901) p. 1820. Folia oblongo-lanceolata et lanceolata, obscure viridia glaucescentia, supra saepissime maculata, glabra, subtus et in petiolo pilosa, utrinque attenuata acuminata, grosse v. inciso-serratodentata. Caulis basin versus pariter ac foliorum petiolus violaceus. Acladium saepe longius. Involucra et pedunculi saepissime glandulosa.

Variat: 1) **normale** M. Z. foliis rosularibus subdeltoideis acutis argute dentatis. — In monte Celva (Evers; *H. subincisum* A.-T. in sched.) et secundum Evers, in Beitr. Fl. Trentino p. 33, etiam in m. Maranza et in iugo Roncogno non procul ab m. Celva et pr. Rovereto: Lavini di Marco; in m. Kalisberg, in saxosis inter Loppio et Nago et copiose in ripa rivi „Rio Cameras“ inter Loppio et Mori (Murr).

2) **subdentatum** M. Z. foliis oblongo-lanceolatis minus dentatis saepe intense coloratis. — Fort Civezzano ad pedem m. Kalisberg [Val de Lievre 1873 (sub nom. *H. pictum*), Murr], in rupibus abruptis infra Sardagna (Murr).

Tab. 74, Fig. A. 1, 2. *H. tephropogon* Zahn ssp. *pseudotridentinum* Zahn (e rupibus p. Fort Civezzano, leg. J. Murr). 1. Squama. 2. Pedunculus sub involucrio.

Subspecies **subintermedium** Zahn, in Koch Syn. (1901) p. 1820. Folia rosularia exteriora ovata v. elliptica, reliqua oblonga v. oblongo-lanceolata, basi truncata, obtusa vel acutiuscula, dilute viridia glaucescentia, utrinque (ut tota planta) sat dense breviterque pilosa, in nervo dorsali basin versus pariter ac in petiolo pilis mollibus 3—5 mm longis villosa, praecipue basin versus grosse serrato-dentata. Involucra et pedunculi fere semper omnino eglandulosa.

Variat: 1) **normale** M. Z. — In m. Celva (Evers), in m. Kalisberg, inter Loppio et Nago et haud infrequens pr. castellum Nago (J. Murr).

2) **trichophyllum** Zahn l. c. foliis oblongo-lanceolatis fere rhombiformibus, grosse dentatis, supra dense rigidiusculeque pilosis. — Supra Seignano in m. Serva pr. Belluno, Venetiae (Huter); ad limites Tiroliae pr. Nikolsdorf (Ausserdorfer, loco non exacte indicato).

Tab. 74, Fig. B. 3, 4. *H. tephropogon* Zahn ssp. *subintermedium* Zahn.

1) **normale** M. Z. (inter Loppio et Nago, leg. J. Murr). 3. Squama. 4. Pedunculus sub involucrio.

45. Hieracium ctenodon N. P. II (1886) p. 202 = **villosum-vulgatum** N. P. l. c.

Caulis 30—55 cm altus crassiusculus v. crassus erectus strictus v. subflexuosus striatus, phyllopodus v. hypophyllopodus, in planta culta interdum aphyllopodus. Folia rosularia pauca sat magna, (saepe longe) petiolata, oblonga v. elliptica, obtusa acutave, remote denticulata v. saepissime grosse dentata, dentibus patentibus v. antrorsum versis, saturate viridia v. subglaucescentia et dilutiora mollia; caulina (3—) 5—8 (—12), infima subpetiolata radicalibus similia, media latiora ovata v. elliptica v. fere rhombiformia sessilia basi saepissime angustata. Inflorescentia alte furcata v. laxa paniculata indeterminata 3—10 cephalis; acladium (1—) 2—7 (—9) cm longum; rami primarii 2—5 crassiusculi v. graciles suberecti v. oblique erecti; ordines axium 2—3. Involucrum 11—15 mm longum ± globosum denique saepe subdepressum; squamae angustae, interdum latiusculae, lineares, longe acuminatae acutissimae, obscurae ± dilute marginatae, exteriores laxae. Bracteae (1—) 3—4 subulatae. Pili in involucrio modice numerosi v. densi diluti 1—3 mm longi, caulomata saepe paulo minus

pilosa, pilis mollibus 2—4 mm longis, subtus semper densioribus longioribusque obsita. Glandulae minutae, in involucrio sparsae v. mediocriter numerosae, in pedunculis saepe solitariae. Flocci involucri fere nulli v. mediocriter numerosi, caulomata superne tomentosa, inferne saepe usque ad caulis basin deminute floccosa, folia caulina in nervo dorsali interdum subfloccosa. Flores dilute saturateve lutei, ligulae apice glabrae v. breviter subciliatae; stylus ± obscurus; achaenia brunnea rarius atra, 3—3,6 mm longa.

Hab. Helvetia, Tirolia (in iugo Brenner et pr. Bozen tantum inventum), Stiria. — Flor. Jul., Aug.

Formae rarissimae, inter *H. villosum* et *H. vulgatum* intermediae, paucis locis tantum observatae et verosimiliter origine hybrida. A cl. Naegeli et Peter l. c. 5 subspecies descriptae sunt, de quibus 3 tantum e locis naturalibus. Addimus praeterea subspeciem novam a cl. Oborny detectam:

Subspecies **Zahnii** Oborny, Oesterr. bot. Zeitschr. (1902) no. 7; *H. gothicum* > *alpinum* Oborny et Zahn l. c. Rhizoma crassiusculum obliquum. Caulis phyllopodus rigidus subflexuosus viridis saepe purpureo-coloratus v. maculatus subglaber 25—40 cm altus. Folia rosularia 3—5 in petiolum sensim attenuata, exteriora fere obovata apice rotundata, reliqua ovato-lanceolata acuminata pariter ac caulina rigida saturate viridia glaucescentia. Folia caulina 3—5 sensim decrescentia, infimum radicalibus interioribus simile, subpetiolatum, reliqua late lanceolata acuta basi contracta subsemiamplexicaulia, summa angustiora saepe bracteiformia, in margine ut etiam radicalia dentibus angustis acutis denticulata v. subdentata, omnia supra sparsim breviterque pilosa, in margine et in nervo dorsali pilis albis ± densis obsita. Inflorescentia 1—5 (—8) cephalae laxae paniculatae subindeterminatae, acladium 10—25 (—40) mm longum. Involucrum ovatum basi denique truncatum; squamae e basi latiore acuminatae obtusiusculae v. acutiusculae, regulariter imbricatae, extimae sublaevae et in bracteis decrescentes, omnes subatrae late viridi-marginatae sat dense obscureque pilosae, 2—2,5 mm, parcefloccosae et glandulis nonnullis minutis praeditae. Pedunculi pilis sat densis apice subdilutis basi atris et glandulis solitariis muniti, apice canotomentosi. Bracteae 3—5 sat parvae. Flores saturate lutei, ligulae apice saepissime glabrae, stylus fuscus, achaenia nigro-brunnea.

Hab. in alpe Frauenalpe pr. Murau Stiriae superioris (Oborny, Fest).

Verosimiliter initio hybridum inter *H. vulgatum* et *H. villosum* ssp. villosissimum N. P.

Tab. 75. *H. ctenodon* N. P. ssp. *Zahnii* Oborny (e loco class., leg. A. Oborny).

1. Squama interior.
2. Squama exterior.
3. Pedunculus sub involucrio.
4. Apex ligularum.
5. Pars aversa folii caulini.
6. Margo foliorum.
7. Achaenium.

46. Hieracium Benzianum Murr et Zahn, in Schinz et Kell., Fl. d. Schweiz ed. 2 II (1905) p. 304; in Koch Syn. (1901) p. 1821; = **vulgatum-silvaticum-villosum** Zahn; *H. vulgatum* > *villosum* Zahn, in Koch Syn. l. c., *H. vulgatum-silvaticum-villosum*, *H. vulgatum-incisum* Zahn l. c.; *H. ctenodontoides* Zahn l. c.; *H. Ausserdorferi* Zahn l. c., nec Hausmann, nec Kerner in sched.!

Ne unus error plures pariat errores ad synonymiam *H. Benziani* hoc addo:

1. Initio, in Koch Syn. (1901) p. 1821, *H. Benzianum vulgatum* > *villosum* putavi, sed ex exemplaribus numerosioribus a cl. de Benz nuper collectis *H. Benzianum* nunc speciem intermediam inter *H. vulgatum* et *incisum* (Trachselianum) habere cogor.

2. In tali interpretatione nomen *H. Benzianum* ad *H. Ausserdorferi* synonyma pertineret.
3. At *H. Ausserdorferi* Hausm. in litt. ad Ausserd. 1866, a me in herbario Huteriano visum et in Kochii Syn. (1901) p. 1821 formis speciei intermediae *vulgatum-incisum* adscriptum, quantum nunc quidem iudicare possum, forma est *H. ramosi* W. Kit., habitu omnino *H. vulgati* caule ad 12 foliato. Planta sub nomine *H. Ausserdorferi* a cl. A. Kerner in Flora exs. austro-hungarica no. 3373 edita est subspecies gregis *Maculatum H. vulgati*.
4. Ex his rationibus nunc sine dubio nomen *Benzianum* sensu lato formis attribuere mihi licet, quae formulae *vulgatum-silvaticum-villosum* respondent.
5. *H. Eversianum* A.-T. apud Murr, in Deut. bot. Monatsschr. (1897) p. 282, prioritate quidem gaudet adversus *H. Benzianum*, sed formulam supra dictam minus evidenter effingit; itaque nomen *Benzianum* speciei collectivae, nomen *Eversianum* gregi primo (et subspeciei *Eversianum* huius gregis) reservatum velim.

Caulis tenuis v. gracilis saepe subflexuosus, striatus, saepissime \pm pilosus basin versus densius pilosus, superne subfloccosus eglandulosus, 25—35 (—40) cm altus, phyllopodus. Folia rosularia complura v. interdum pauca \pm longe petiolata, elliptico- v. oblongo-lanceolata saepe sat magna, utrimque attenuata sensim in petiolum angustata, exteriora \pm obtusiuscula v. ut reliqua breviter acuminata acuta mucronata, omnia utrimque dentibus triangularibus acutis v. lanceolatis antrorsum versis glanduloso-mucronatis subnumerosis saepe varie longis interdum sat grossis munita, sat mollia, subglaucescentia dilute obscureve viridia, supra glabra v. ut subtus sparsim breviterque pilosa, in margine et in nervo dorsali petioloque sat dense pilosa, pilis 1—4 mm longis, v. interdum pilis brevibus sparsis v. dispersis obsita. Folia caulina 2—4 subsensim decrescentia remota, inferius v. etiam scundum subpetiolatum radicalibus simile, usque supra medium grosse dentata, reliqua fere sessilia v. sessilia basi \pm longe cuneata v. breviter contracta, summa saepissime anguste lanceolata v. linearia acutissima, denticulata v. \pm integerrima, interdum in nervo dorsali subfloccosa. Inflorescentia laxa paniculata v. \pm alte furcata, aeladium 10—50 (—100) mm longum (rarissime longius), rami primarii 1—3 (—4) \pm remoti suberecti v. oblique erecti, ordines axium 3, capitula 3—7 (—12). Involucrum ad 13 (—15) mm longum ovatum, squamae angustae acutissimae v. latiores \pm longe acuminatae acutae interiores acutissimae v. interdum exteriores acutiusculae, omnes obscurae v. obscure virides, haud raro (praecipue interiores) \pm viridi-marginatae, fere semper sparsim floccosae dense mediocriterve pilosae, pilis 1—2,5 mm longis apice dilutis v. subobscuris basi atris, fere eglandulosae v. glandulis solitariis sparsisve munitae. Pedunculi tenues v. graciles saepissime stricti, sat dense sparsimve pilosi, fere eglandulosi v. subglandulosi, saepissime albido- v. canotomentosi. Bractee 1—4 minutae. Flores lutei v. saturate lutei, interdum subaureolutei, ligulae apice fere semper glabrae, stylus vulgo obscurus, achaenia subatra.

Hab. in ditione *H. villosi*, *dentati* et *incisi*, in Helvetia, Tirolia, Carinthia et Stiria. — Flor. Jul., Aug.

Habitus ut in *H. diviso* Jord. (= *vulgatum-silvaticum*) v. ut in *H. caesio* Fr. (= *vulgatum-silvaticum-glaucum*), sed differt squamis longe acuminatis acutis v. acutissimis \pm dense v. mediocriter pilosis fere eglandulosis; a *H. bifido* praecipue differt foliis caulinis 2—4 subsensim decrescentibus, a *H. psammogene* differt iisdem characteribus et involucris parum

floccosis, nec dense stellatis. Grex *Vulgatifolium* transitum inter *H. Benzianum* et *H. caesii* gregem *Davallianum* sistere videtur.

Dispositio gregum:

- a. *Eversianum* Zahn. Acladium 4—9 (—15) cm longum, involucria maiora 13—15 mm longa, pariter ac caulomata densius longiusque pilosa. Formulae Murrianum-vulgatum respondens.
- b. *Benzianum* Zahn. Acladium 1—3 (—5) cm longum, involucria 10—13 mm longa, pariter ac caulomata pilis brevibus sat densis v. mediocriter numerosis obsita, eglandulosa v. glandulis nonnullis praedita. Formulae Trachselianum-vulgatum respondens.
- c. *Vulgatifolium* Zahn. Habitus *H. vulgati*. Acladium 1—3 cm longum, involucria 10—12 mm longa breviter subpilosa sparsim mediocriterve glandulosa, caulomata sparsim pilosa superne (pedunculi) mediocriter glandulosa. Formulae incisum-vulgatum respondens.

a. *Eversianum* Zahn.

Subspecies *Eversianum* A.-T., in litt ad J. Murr (1895) et apud Murr, in Deut. bot. Monatsschr. (1897) p. 282; Zahn, in Koch Syn. (1901) p. 1798; *H. incisum* ssp. *Hittense-vulgatum* ssp. *lonchodes*. Caulis 30—40 cm altus, inferne sat dense pilosus, superne subpilosus subfloccosus, apice hinc inde glandulis solitariis praeditus. Folia rosularia sat magna, exteriora minora ovata aut florendi tempore emarcida, reliqua late ovato-lanceolata v. oblongo-lanceolata \pm sensim in petiolum angustata subacuminata acuta, remote irregulariterque et saepe grosse acuteque dentata, caulina 1—2 (—3) late lanceolata v. lanceolata, inferius radicalibus saepissime simile, reliqua acutiora fere subpetiolata serrato-dentata, summum saepe elongatum bracteiforme, omnia supra brevissime disperseque pilosa v. glabrescentia, subtus subpilosa, in nervo dorsali et in petiolo sat longe subvillosa, in margine sat dense ciliata, subglaucescentia vel plerumque obscure viridia, summa in nervo dorsali saepe subfloccosa. Inflorescentia alte furcata 1—7 cephalia, acladium 4—9 (—15) cm longum, rami primarii 1—2 valde remoti 1—2 (—4) cephalia, involucrum 13—15 mm longum globoso-ovatum, squamae saepe subangustae longe acuminatae \pm acutae obscurae v. atrovirides dilutius marginatae, sat dense obscureque pilosae, 1,5—2,5 mm, disperse mediocriterve glandulosae et praesertim in margine subfloccosae. Pedunculi mediocriter glandulosi et pilosi, pilis obscuris 2—3 mm longis, obscure canotomentosi. Flores aureolutei conspicui, ligulae apice saepe distincte subciliatae, stylus obscurus.

Habitus *H. divisi*, characteres ut in *H. Hittensi* Murr; etiam formis quibusdam *H. atrati* haud dissimile. In iugo Arlberg prope Stuben (Evers 1883).

Tab. 76, *H. Benzianum* M. Z. ssp. *Eversianum* A.-T. (e Stuben sub iugo Arlberg, leg. J. Murr). 1. Squama exterior. 2. Squama interior. 3. Pedunculus sub involucro. 4. Dentes ligularum.

Huc pertinet etiam *H. ctenodontoides* Zahn, in Koch Syn. (1901) p. 1821. Habitus *H. dentati*, capitula minora, dense pilosa, pariter ac pedunculi sparsim glandulosa, folia ut in *H. dentato* v. paulo maiora \pm grosse dentata, caulina 2—5 basi angustata, more *H. vulgati* usque supra medium dentibus antrorsum versis serratodentata, summa subtus in nervo mediano subfloccosa. — Hab. Helvetia, Tirolia, Carinthia. — Verosimiliter formulae *divisum-villosum* respondens.

b. *Benzianum* Zahn.

Subspecies *Benzianum* M. Z.; *H. vulgatum* $>$ *villosum* Zahn l. c. Caulis tenuis disperse albidopilosus. Folia rosularia 2—4 longe petiolata elliptico- v. oblongo-lanceolata denticulata v. breviter serrato-dentata tenuia glaucescentia sublutescenti-viridia, ad summum

in margine, nervo dorsali petioloque sparsim disperse pilosa, caulina 2—4 usque supra medium \pm grosse serrato-dentata, inferius subpetiolatum, reliqua basi breviter contracta v. subrotundata sessilia, summa lanceolata denticulata, in nervo dorsali v. in tota parte aversa \pm floccosa. Inflorescentia \pm altefurcata indeterminata 3—6 (—10) cephalia, acladium ad 3 cm longum, rami primarii 2—3 (—4) tenues \pm stricti 1—2 (—3) cephalia. Involucrum ad 13 mm longum, squamae angustissimae longissime acuminatae acutissimae, sparsim floccosae disperse breviterque pilosae sparsim glandulosae. Pedunculi albidocani, fere eglandulosi, sparsim pilosi. Flores aureolutei, ligulae glabrae.

Carinthia: Prope Raibl (de Benz).

Ob squamas angustissimas valde acutas insigne, *H. incisi* gregi Trachseliano respondens.

Subspecies **ctenodontiforme** Benz et Zahn, in Oesterr. bot. Zeitschr. (1904) no. 7; *H. Trachselianum-vulgatum* l. c. Caulis gracilis disperse basin versus densius pilosus. Folia rosularia c. 4 petiolata oblongo-lanceolata inaequaliter arguteque dentata tenuia subglauca dilute viridia, in margine dense ciliata, in nervo dorsali et in petiolo pilis 1—3 mm longis numerosis obsita, basin versus longe attenuata, dentibus saepe in petiolum descendentes; caulina 2—4 argute dentata, infima \pm petiolata v. secundum et reliqua basi attenuata sessilia, acuta, summum lineare acutissimum integerrimum. Inflorescentia altefurcata 5—10 cephalia, acladium ad 3 cm longum, rami primarii 2—3 remoti 1—3 cephalia graciles. Involucrum 9—10 mm longum, squamae subangustae acutae, disperse floccosae et pilosae (pilis 1—2 mm longis), eglandulosae, rarissime glandulis valde solitariis praeditae. Pedunculi graciles albido-cani, glandulis solitariis et pilis dispersis brevibus muniti. Flores saturate lutei, ligulae vulgo haud ciliatae.

Carinthia: in iugo Ploekenpass et in alpe Thörleralpe pr. Raibl (de Benz).

Tab. 77. *H. Benzianum* ssp. *ctenodontiforme* de Benz et Zahn (e Thörleralpe pr. Raibl, leg. de Benz). 1. Dentes ligularum. 2. Squamae. 3. Pedunculus sub involucrio. c. *Vulgatifolium* Zahn.

Subspecies **inexpertum** M. Z., Oesterr. bot. Zeitschr. (1903) p. 380; *H. Ausserdorferi* ssp. *inexpertum* M. Z. l. c.; *H. Eversianum* < *vulgatum* Murr l. c. Caulis 45—50 cm altus, inferne subpilosus, superne subglaber subfloccosus, gracilis. Folia rosularia 2—4 longe petiolata sat magna ovato-lanceolata irregulariter grosse dentata, dentibus antrorsum versis subnumerosis (more *H. vulgati*), caulina 3—4, inferiora petiolata radicalibus similia, summa basi angustata \pm longe cuneata sparsius breviter dentata v. fere integerrima, omnia subrigidiuscula obscure v. sordide viridia, disperse subrigidiusculeque pilosa, pilis brevibus basi scrobiculis atris insertis, in margine nervoque dorsali et in petiolo subdensius breviterque pilosa, summa subtus in nervo mediano subfloccosa. Inflorescentia laxa paniculata 2—5 (—7) cephalia, acladium 10—25 mm longum, rami primarii c. 3 remoti 1—3 cephalia. Involucrum 10 mm longum ovatum, squamae subangustae acuminatae acutiusculae, nigrovirides late viridi-marginatae, sat dense floccosae subglandulosae mediocriter obscureque pilosae. Pedunculi canotomentosi subglandulosi epilosi v. superne tantum pilis sparsis obsiti. Flores aureolutei, ligulae fere semper glabrae v. sparsim granulatae, stylus fuscus, achaenia subatra.

Hab. in iugo Arlberg prope Stuben (J. Murr).

Transitum sistit inter *H. vulgatifolium* M. Z. (= *Hittense* vel *Eversianum* — *vulgatum*) et *H. vulgatum*, itaque *H. vulgato* valde affine. Subsp. similis sed *H. Eversiano* propior (ssp. *Innsbruckense* Murr in litt.) hoc anno a Murrio supra Hoetting detecta est.

Tab. 78. *H. Benzianum* M. Z. ssp. *inexpertum* M. Z. (e Stuben sub iugo Arlberg, leg. J. Murr). 1. 2. Squamae. 3. Pedunculus sub involucri. 4. Dentes ligularum. 5. Achaenium.

47. Hieracium saxifragum Fries, Symb. (1848) p. 100; Epicr. (1862) p. 87; Herb. norm. fasc. XII no. 17; Dahlst., Bidrag sydöstra Sverig. Hierac.-Fl. III, in Kongl. svensk. Vet.-Akad. Handl. vol. 26 no. 3 (1894) p. 198; Zahn, in Koch Syn. (1901) p. 1822; = **vulgatum-Schmidtii** Zahn, in Schinz et Kell., Fl. d. Schweiz (1905) II p. 305. — Habitus *H. vulgati*. Caulis 20–60 cm altus striatus, saepe ± ascendens interdum subflexuosus, rigidus, inferne breviter (1–3 mm) sparsimque vel sat dense aut dense pilosus, superne minus pilosus vel subglaber et sparsim v. mediocriter floccosus, saepe iam a basi v. altius ± squarrosus et interdum longe ramosus. Folia rosularia pauca, exteriora minora ± elliptica v. obovata obtusa, interiora lanceolata v. + anguste lanceolata acuta, intima interdum lineari-lanceolata cuspidata, omnia saepissime in petiolum saepe late alatum sensim attenuata, integerrima v. rare et minute denticulata rarius dentata v. serrato-dentata, rarissime irregulariter remoteque subsinuato-dentata, marginibus apicibusque saepe ± undulata v. plicata, in marginibus, in petiolis et in nervo dorsali mediocriter v. dense pilosa ceterum sparsius pilifera aut fere glabra (pili rigidiusculi v. subsetacei), interdum in nervo dorsali (rarissime in tota parte aversa) subfloccosa, in margine nervoque dorsali praecipue basin versus fere semper glandulis minutissimis solitariis praedita, glauca v. viridi-glauescentia. Folia caulina 1–5 saepissime subsensim decrescentia, inferius petiolatum, reliqua v. omnia sessilia basi cuneata ± lanceolata v. lineari-lanceolata subintegerrima v. ± dentata cuspidata, plerumque in bracteas decrescentia, superiora subtus saepe densius floccosa. Inflorescentia laxa paniculata simplex vel composita saepe sat contracta, acladium 3–20 mm longum (raro longius), rami primarii (0—) 1–5 arrecti v. magis patentes suprafastigiati, ± floccosi simpliciter v. repetito-ramosi, capitula pauca v. subnumerosa. Involucrium 9–10,5 mm longum ovatum denique magis crassum, defloratum constrictum conicum, squamae angustae v. sublatiusculae e basi sat lata plerumque sat longe attenuatae pleraeque acutae intimae subulatae, sat obscurae v. dilutae margine virides, glandulis minutis sparsis v. mediocriter numerosis, pilis brevibus sparsis apice dilutis et floccis raris v. subdensis (in margine saepe densioribus) obtectae. Pedunculi saepissime canotomentosi sparsim v. subdensius pilosi saepissime sparsim glandulosi. Bracteae 1–4 minutae. Flores (saepe saturate) lutei saepissime subconspicui, ligulae fere semper breviter v. brevissime subciliatae, marginales saepe radiantes, stylus luteus interdum denique subfuscescens, achaenia subatra v. atrobrunnea.

Hab. in rupibus et locis petrosis siliceis Scandinaviae, Silesiae, Bohemiae, Prussiae rhenanae, Palatinatus, Valesiae, Galliae orientalis et austro-occidentalis et Scotiae. — Flor. Jun.—Aug.

Inter *H. vulgatum* et *H. Schmidtii* intermedium, sed *H. vulgato* magis affine.

Subspecies **rupigenum** Čelak., Durchforsch.-Ber. böhm. Phanerogam. (1888) p. 474; nec A.-T., Hier. alp. fr. (1888) p. 46; *H. rupicolum* v. *sudeticum* Uechtr., secundum G. Schneider, in „Das Riesengebirge in Wort und Bild“ fasc. 49 et 50 (1893) p. 20; *H. rupicolum* Fiek, Fl. v. Schlesien (1881) p. 272; nec Fries, nec Jordan; *H. saxifragum* ssp. *rupigenum* Zahn, in Koch Syn. (1901) p. 1823. Caulis (15—) 20–30 (—45) cm altus tenuis v. gracilis, interdum crassiusculus, striatus basin versus haud raro rubrobrunneus et pilis dispersis c. 2 mm longis dilutis adpersus, superne saepissime glaber, apicem versus saepe subfloccosus.

Folia rosularia 4—6 (—8) oblongo-lanceolata) vulgo longe) peiolatta remote repando-denticulata v. dentata, interdum basin versus rarius usque ad medium \pm sinuato-dentata, dentibus glanduloso-mucronatis, in petiolum alatum basi subvaginatem et subrubro-coloratum attenuata, omnia rigidiuscula, supra dilute viridia subglauca glabra, subtus albido-viridia glaucescentia, in margine et in nervo dorsali modice disperseve pilosa, pilis 0,5—1 mm longis rigidiusculis v. subsetaceis, petioli mediocriter v. sat dense pilosi (2 mm). Folia caulina 0—2 (—3), inferius interdum radicalibus simile, saepissime angustius elongato-lanceolatum acutum, remote repando-denticulatum rarius profundius dentatum, superius (in caule bifoliato) fere semper anguste linare basin versus attenuatum subpetiolatum, saepissime integerrimum rarius subdenticulatum. Inflorescentia laxissime paniculata (1—) 3—5 (—10) cephalae saepe indeterminata (interdum 1—2 caules laterales evoluti) suprafastigiata, rami primarii (0—) 1—3, ordines axium 2—3, acladium 15—35 (—50) mm longum. Involucrum 10—11 mm longum oblongo-ovatum denique subglobosum, squamae subangustae longe acuminatae, capitula iuniora longe superantes, obscurae v. subnigrae, pilis subdilutis 1,5—2 mm longis basi atris mediocriter numerosis, glandulis mediocriter v. satis numerosis obsitae, saepissime sparsim floccosae v. in margine densius stellatae, interiores nigrovirides. Pedunculi saepe subsquarrosi, superne disperse mediocriterve glandulosi (glandulis tenellis) et sat dense floccosi v. fere canotomentosi, pilis solitariis brevibus subsetaceis atris et aliis canis basi atris 1,5—2 mm longis mollibus obsiti. Bractee paucae minutae. Flores dilute aureolutes, ligulae apice sparsim breviterque ciliatae, stylus luteus denique fuscescens, achaenia subatra.

Hab. in montibus Riesengebirge 1150—1350 m: Kiesberg non infrequens (Uechtritz), Melzergrube, Kesselkoppe, Ziegenrücken, Aupagrund (Fiek), Plattenhöhe (Domin). — Flor. Julio, Aug.

Nulla modo varietas *H. rupicoli* Fries. — *H. rupicolum* v. *franconicum* [Griseb., Comm. p. 56; Reichb., Comp. tab. 187, fig. II], a G. Schneider loc. cit. sine iudicio cum *H. rupigeno* junctum et pro flora silesiaca indicatum, est propria et distinctissima species inter *H. bupleuroides* et *H. silvaticum* intermedia et usque adhuc paucis locis Germaniae australis tantum inventa.

Tab. 79, Fig. A. 1—3. *H. saxifragum* Fries ssp. *rupigenum* Čelak. (e fauce Melzergrube, leg. W. Conrad). 1. Squama exterior. 2. Squama interior. 3. Pedunculus sub involucre.

48. Hieracium onosmoides Fr., Symb. (1848) p. 102 (incl. *H. oreades* Fr., Symb. p. 100) = **vulgatum-Schmidtii** Zahn, in Koch Syn. (1901) p. 1822 et in Schinz et Kell., Fl. d. Schweiz (1905) II p. 304.

Characteres ut in *H. saxifrago*, at fere tota planta albopilosa v. setis longis strictis hispida. — Flor. Jun.-Aug.

Dispositio gregum:

- a. *Oreades* Zahn. Intense glaucum. Caulis albopilosus, folia margine subtusque piloso-crinita.
- b. *Onosmoides* Zahn. Glauco-pallens. Caulis basi setoso-comosus, folia setis longis strictis hispida.
- a. *Oreades* Zahn.

Subspecies **oreades** Fries, Symb. p. 100; Epicr. (1862) p. 88; Reichb., Comp. tab. 192, fig. 1 (forma macilentia); Zahn, l. c. p. 1823; nec Heuffel, in Flora (1853), nec N. P. I p. 282; *H. brumale* A. Schultz exsicc., non A.-T. — Caulis 30—60 cm altus rigidus foliosus albopilosus, vulgo ex omni ala, etiam foliorum radicalium ramosus, ramis foliosis.

Folia membranacea, subintegerrima v. medio denticulata rarius dentata, dense ciliata, 1—3 mm, eximie glauca; rosularia utrinque pilosa, exteriora subrotundata, reliqua oblonga obtusiuscula, in petiolum dense alboerinitum \pm longum v. sat brevem sensim attenuata, in margine densius ciliata et hinc inde una alterave glandula minuta obsita; caulina 2—4 rarius complura sessilia subsensim in bracteas decrescentia et angustiora basi angustata. Inflorescentia saepe indeterminata, in speciminibus minoribus simplex, in elatioribus ramosissima, acladium 10—25 mm longum, rami primarii (0—) 3—5 v. complures, ordines axium 3—4, capitula (1—) 5—15 (—25). Involucrum 10—12 mm longum ovatum denique tumidum, defloratum utrinque truncatum nec constrictum, squamae lineari-attenuatae, exteriores et mediae adpressae, \pm obtusae, interiores acuminatae nec cuspidatae obscurae margine virides, sparsim medio-erterve (basin versus) floccosae eglandulosae v. rarius glandulis minutis solitariis obsitae sed pilis 1—2,5 mm longis albis nigrobulbosis suberinitae v. disperse pilosae. Pedunculi leviter canotomentosi et sparsim minuteque glandulosi v. fere eglandulosi, sed pariter ac tota inflorescentia sat dense albopilosi, 1,5—3 mm. Bracteae 1—3 minutae. Flores lutei, ligulae apice ciliatae, stylus luteus, achaenia 4—4,5 mm longa fusca.

Hab. ad lacus maiores Sueciae (Fries); Germaniae: in rupibus porphyraceis pr. Trotha Saxoniae (A. Schultz!).

Exsiccata: Fries, Herb. norm. XII no. 16.

Tab. 79, Fig. B. 4, 5. *H. onosmoides* Fries ssp. *oreades* Fries (pr. Trotha, leg. A. Schultz). 4. Squama. 5. Pedunculus sub involuero.

b. *Onosmoides* Zahn.

Subspecies **porphyritae** F. Schultz, Oesterr. bot. Zeitschr. (1872) p. 210 (nec porphyriticum A. Kerner, Oesterr. bot. Zeitschr. 1863 p. 247). Caulis 30—40 cm altus gracilis v. crassiusculus rigidiuscule pilosus basin versus dense et longe setosus et haud raro purpureo-violaceus, apice subfloccosus. Folia rosularia subnumerosa prasino-glauca v. glaucopallida rigidiuscula, breviter petiolata, oblongo-lanceolata v. lanceolata acutiuscula v. breviter acuta, saepe subundulata et subplicata, basin versus in petiolum subalatum sensim angustata, \pm (interdum grosse) dentata, utrinque setoso-pilosa, in margine densius longiusque setosa, in nervo dorsali et praecipue basin versus setis ad 5 mm longis crinita, praeterea in margine nervoque dorsali glandulis solitariis minutis praedita; caulina 3—5 subsensim v. cito in bracteas decrescentia sessilia lanceolata v. angustiora, summa saepissime bracteiformia et in nervo dorsali saepe subfloccosa. Inflorescentia valde indeterminata, caulis haud raro ex omni ala ramosa, ramis elongatis foliaceis, acladium 20—50 mm longum, rami primarii (3—) 6—10 oblique erecti rigidiuscule pilosi, 2—3 (—4) mm, ordines axium 3—4, capitula (3—) 5—25 v. complura. Involucrum 11—13 mm longum ovatum denique crassius, squamae subangustae acuminatae \pm acutae, praesertim basin versus subfloccosae v. parcfloccae, subpilosae (1,5—2 mm), exteriores glandulis solitariis praeditae, interiores vulgo glandulosae nigrovirides viridi-marginatae. Pedunculi canotomentosi subpilosi disperse sparsimve glandulosi, graciles. Bracteae saepissime numerosae interdum sub involuero confertae, squamiformes. Flores lutei, ligulae apice subciliatae, stylus luteus, achaenia fusca.

Hab. ad limites Palatinatus rhenani et Prussiae rhenanae in rupibus porphyraceis pr. Muenster a. Stein et Kreuznach: Rotenfels (F. Schultz).

Subspeciei *onosmoides* Fr. valde affine, at differt involucris haud cano-floccosis etc. Typica subsp. *onosmoides* a me in rupibus porphyraceis m. Donnersberg Palatinatus inventa est.

Exsicc.: F. Schultz, Herb. norm. nov. ser. cent. I no. 96.

Tab. 80. *H. onosmoides* Fr. ssp. *porphyritae* F. Sch. (e loc. class., leg. F. Schultz).

1. Squama exterior. 2. Squama interior. 3. Dentes ligularum. 4. Pedunculus sub involucro. 5. Caulis portio. 6. Portio e parte aversa folii caulini.

Subspecies **Danubiale** Borbas (1877); Richter in Baenitz, Herb. europ. no. 6971 (1878). Caulis 30—50 cm altus gracilis v. crassiusculus superne breviter pilosus, inferne sat dense rigidiusculeque pilosus, 3—5 mm, apice subfloccosus. Folia rosularia pauca petiolata saepissime ampla late ovato-lanceolata breviter acuta basin versus subsensim attenuata, glaucescentia sordide viridia, submembranacea, denticulata v. subdentata subundulata, utrinque subrigidiuscule pilosa, in margine nervoque dorsali et in petiolo densius longiusque (2,5—5 mm) subsetosa, interdum etiam glandulis nonnullis minutis obsita; caulina 2—4, inferius saepe subpetiolatum radicalibus simile, reliqua sensim decrescentia oblongo-lanceolata v. cito angustiora et in bracteas decrescentia, summa in nervo dorsali subfloccosa. Inflorescentia laxissime paniculata subindeterminata, rami primarii vulgo 3 (—4) graciles, inferior valde remotus, ordines axium 3, capitula (2—)4 —10 (—15). Involucrum 10—12 mm longum ovatum, squamae subangustae acuminatae acutae obscurae subfloccosae, mediocriter glandulosae pilosaeque, interiores margine virides. Pedunculi graciles canotomentosi subpilosi et glandulis subnumerosis obsiti. Bracteae 2—3 minutae. Flores lutei, ligulae apice breviter subciliatae, stylus luteus, achaenia fusca.

Hab. in Hungaria pr. Budam: in montibus dolomiticiis Kikarhegy supra Buda Ujlak, loc. class. (Borbás), Felső-Kecskehegy et Háromhátarhegy (Czako).

Exsicc.: Baenitz, Herb. europ. no. 6971.

Tab. 81, Fig. B. 4, 5. *H. onosmoides* ssp. *Danubiale* Borb. (e loc. class., leg. L. Richter).

4. Squama. 5. Pedunculus sub involucro.

Subspecies **Sempronianum** F. O. Wolf in sched.; Zahn, in Koch Syn. (1901) p. 1824. Caulis 40—70 cm altus tenuis v. gracilis rigidus, saepe (praesertim basin versus) violaceus, superne pilosus (1—2,5 mm), inferne densius longiusque subsetoso-pilosus. Folia rosularia 3—5 brevius longius petiolata ovato-lanceolata, oblongo-lanceolata v. interiora lanceolata, ± sensim in petiolum attenuata, obtusa v. pleraque acuminata acuta; caulina 6—12 sensim decrescentia ± lanceolata radicalibus similia, inferiora breviter petiolata v. pariter ac reliqua basi ± longe attenuata ± sessilia, summa angusta v. bracteiformia subtus subfloccosa; omnia glaucescentia dilute sordideve viridia interdum leviter maculata, more *H. vulgati* irregulariter subserrato-dentata (radicalia exteriora saepe tantum denticulata), utrinque sat dense pilosa supra subsetosa, in margine nervoque dorsali et in petiolo densius longiusque (3—5 mm) subsetoso-crinita, in margine et in nervo dorsali fere semper glandulis nonnullis minutis praedita. Inflorescentia vulgatiformis suprafastigiata determinata v. valde indeterminata, rami primarii 4—10 oblique erecti, ordines axium 3 (—4), acladium 5—15 (—20) mm, capitula 10 v. numerosa. Involucrum 10—11 mm longum ovatum, squamae angustae acuminatae acutiusculae, obscurae dilute (viridi-) marginatae, mediocriter v. disperse floccosae, -pilosae et -glandulosae. Pedunculi canotomentosi, mediocriter pilosi glandulosique, glandulae ubique minutae. Flores lutei, ligulae breviter subciliatae, stylus luteus, achaenia atrobrunnea.

Hab. in Helvetia: Valesia: Lourtier (Wolf), Saxon, Charrat (Besse), Nax, Isérable, Sierre, Niouc, Vercorin, Painsec, Grimence, Vissoye, Chandolin, Susillon (Wolf, Bernoulli),

Visp, Zeneggen, Visperterminen, supra Taesch et pr. Eisten in v. Saastal (Wolf), Brieg (Rikli), Pont Napoleon, Bérissal, Simpeln, Approz, Grengiols (Wolf).

Variat: 1) normale, foliis supra sat dense pilosis;

2) laevigatum, foliis supra disperse breviterque pilosis v. \pm glabris. —
Bérissal (Bernoulli).

Tab. 81, Fig. A. 1—3. *H. onosmoides* Fr. ssp. *Sempronianum* Wolf (pr. Napoleonsbrücke haud procul a Brieg, leg. Wolf). 1. Squama exterior. 2. Squama interior. 3. Pedunculus sub involucrio.

Sectio VI: Pleiophylla.

Sectio VI. **Pleiophylla** Peter, in Engler-Prantl, Natuerliche Pflanzen-Familien IV, 5 (1894) p. 375—387; Zahn, in Koch Synops. (1901) p. 1824. — Folia petiolata, pilis simplicibus \pm denticulatis oblecta, eglandulosa, gramineo-viridia haud glaucescentia, mollia, ubique pilis densis, nunc subelongatis mollissimis, nunc brevibus rigidulis hirsuta, subtus in nervo mediano basin versus dense villosa (rosularia novella dense pellita), basi saepissime angustata; caulina pauca v. complura, rosularia numerosa saepe dense rosulata. Inflorescentia determinata paniculata oligo- v. polycephala. Capitula gracillima cylindrica, H. silvatici minora, subdecemflora, fere effloccosa, epilosa, dense glandulosa. Pedunculi capillares. Dentes ligularum haud ciliati; stylus luteus denique fuscus; alveoli margine subdentati; achaenia dilute v. obscure brunnea; pappus niveo-albus.

49. Hieracium transsilvanicum¹⁾ Heuffel, Verhandl. zool.-bot. Gesell. Wien VIII (1858) p. 151; Oesterr. bot. Zeitschr. (1858) p. 27; Enum. pl. Banat. p. 115 (1859); Fries, Epicr. (1862) p. 97²⁾; *H. pleiophyllum* Schur, Verhandl. siebenbuerg. Ver. II (1851) p. 171; Sert. fl. Transsilv. (1853) p. 46; Enum. fl. Transsilv. (1866) p. 394 (*nomen solum*³⁾); Zahn, in Koch Syn. (1901) p. 1825; *H. leptcephalum* Vukot., Hierac. croatica (1858) p. 13 (in Verhandl. südslav. Akad. XXXIII, cum icon.); *H. arcticum* Schur, Oesterr. bot. Zeitschr. (1861) p. 22; *H. eriocaule* Schur, Sert. fl. Transsilv. p. 46; *H. eriophyllum* Schur l. c., nec Link; *Crepis Fussii* Kováts, Exsicc. 1843; *H. rotundatum* Kit. [in Schultes, Oesterr. Fl. (1814) II p. 439³⁾ et in Hornem., Hort. Hafn. II (1815) p. 763] apud A. Kerner, in Oesterr. bot. Zeitschr. (1872) p. 352.

Rhizoma crassum. Caulis 30—80 cm altus phyllopodus tenuis v. gracilis interdum crassiusculus strictus subsulcato-striatus, inferne sat longe villosus v. fere pellitus, superne breviter villosus \pm dense floccosus et glandulosus, apicem versus magis magisque epilosus densius floccosus et glandulosus. Folia rosularia numerosa (6—10 v. complura) ovata, elliptica oblongave, \pm cito sensimve in petiolum lanuginosum attenuata, rotundato-obtusa v. obtusiuscula mucronata v. acutiuscula v. breviter acuta, raro integerrima, saepissime remote sinuato-dentata, dentibus antrorsum versis, v. leviter sinuato-denticulata, utrimque breviter pilosa, in margine nervoque dorsali et in petiolo dense breviterque villosa, pili supra minus numerosi breviores subrigidiusculi, in parte aversa molles longiores, petiolus (pariter ac folia

¹⁾ Abhinc ea adiectiva et substantiva tantum, qui ab nominibus personalibus derivantur, litteris grandibus scribere velim.

²⁾ „*H. transsilvanicum* Schur ined.“ scribit Fries, sed Schurius nullo loco ullum Hieracium sub hoc nomine publicavit v. denominavit.

³⁾ Descriptio imperfecta et valde dubia.

novella) pilis sat longis mollibus dense villosis-pellitis; folia caulina (1—) 2—4 (—6) subsensim v. cito decrescentia \pm remota, inferius \pm petiolatum radicalibus simile, reliqua lanceolata basin versus \pm attenuata; omnia viridia, saepe sublutescentia, mollia. Inflorescentia saepissime determinata paniculata, ramis \pm arcuato-squarrosis. Capitula complura v. numerosa (—80), acladium 3—10 (—15) mm longum, rami primarii 4—7 v. numerosiores (ad 15), superiores conferti, inferiores subremoti arcuato-patentes, ordines axium 3—4 (—5). Involucrum sat parvum 7—8 mm longum cylindrico-ovatum basi rotundatum circiter 10-florum. squamae angustae acutiusculae et acutae obscure virides \pm late albido-virideque marginatae, fere effloccosae dense glandulosae omnino epilosae. Bracteae c. 2 minutae. Pedunculi valde tenues leviter cani dense glandulosi epilosi. Glandulae sensim deminutae, usque ad caulem medium descendentes. Flores dilute lutei, ligulae apice glabrae, stylus luteus denique fuscescens; achenia dilute v. obscure brunnea.

Habitat in fagetis (rarius in pinetis, rarissime in quercetis) usque ad regiones subalpinas. Hungaria: Com. Goemoer: Dobsina (Czakó), in montibus carpathicis et per alpes transsilvanicas usque ad Thermas Herculis: Com. Marmaros: In m. Toroiaga pr. Borsabanya 1400 m, Przislop pr. Borsa 1400 m (Ade), Hoverla, Trebusáner Alpe, Popp-Iván, in valle Szilszki pr. Mentsul (Vágner), Raho (Janka); Com. Csik: Oecsem Tetéje, Gyimes, in m. Kukurbeta pr. Rézbánya (Vágner); Com. Torda-Aranyos: Skerisora (de Degen), Rodna (Janka), Szamos-tal-Bistritzatal (Porcius), in m. Craciunel pr. Rodna (de Deg.), Muska (Csato); Com. Bihar: Petrosa, in montibus Bihariae (A. Kerner); in alpinis transsilvanicis: in m. Schuler pr. Kronstadt (Gugler), Kleiner Hangenstein et Busecs (Roemer), Borszék (id.), Hermannstadt, Arpas (Schur), Verespatak (Czako), Retyezát (Gugler), Herkulesbad (Heuffel); Galicia orientalis: Czywczy-Suligule, Gorgona-Jayki, Hryniawa ad fl. Weisser Czeremosz, Rafailowa ad fl. Schwarze Bystrzyca, Jablonica in valle fl. Pruth, in montibus Kiczera pr. Mikuliczyn et Pantyr (Wołoszczak), Czorna hora (Rehmann); Bukowina (Rehmann), p. e. Dea Câmpulung 800 m (Wołoszczak); Banatus (Heuffel, de Degen) p. e. Mehadia (Janka); Bosnia: Mokro (Blau), pr. Kasidol ad pedem m. Jahorina (K. Maly), Treskavica planina 1400 m (G. Beck), in valle Visoko et in m. Trebevic 650—1600 m pr. Sarajevo (G. Beck, K. Maly), Majevisa, Matorac (G. Beck), Inac pr. Kreševo (G. Schwarz), Travnik, Kruščica (Brandis), Igman pr. Vrelo Bosne (Fiala), in m. Stolac distr. Višegrad 1600 (Ćurčić); Hercegovina: Bihac (Boller), in iugo Ivan (K. Maly); Montenegro: Jezero, Dormitor (Baldacci); Croatia: Agram, Kalnik, Samobor (Schlosser, Vukotinovic); Stiria: Klakožkigraben pr. Drachenburg 5—600 m (Preissmann), Lassnitzklause pr. Deutsch-Landsberg 400 m (id.), in m. Hum pr. Tueffer et in m. Nikolaiberg pr. Cilli (Pospichal), in m. Wotsch pr. Poeltschach (de Hayek), St. Lorenzen-Maria in der Wueste (id.), in m. Bachergebirge pr. Marburg (Murr, de Hayek), ibidem in silvis secundum fl. Dravum versus Lembach (Murr).

Flor. Maio-Jul.

Variat: α) **eriocaulum** Schur, Oesterr. bot. Zeitschr. l. c.; *H. arcticum* Schur l. c. Caulis ad 6-foliatus, pariter ac folia densissime pilosus. — In alpinis transsilvanicis.

β) **pleiophyllum** Schur l. c. Caulis 1—3 foliatus. Forma vulgarissima.

1) normale Zahn. Folia dense longiusque pilosa.

a) *verum* Zahn. Capitula gracillime cylindrica, squamae \pm virides. — Hungaria, Galicia, Transsilvania, Bosnia, Stiria.

- b) *leptocephalum* Vukot., Hier. croat. p. 13. Capitula paulo crassiora, squamae obscuriores. — Croatia, Bosnia.
- 2) *brevipilum* Zahn. Folia dense breviterque pilosa (sed folia novella densissime breviterque pellita). — Marmaros: In valle Szilszki pr. Ment-sul, Hoverla (Vágner), Przislop pr. Borsa 1400 m (Ade); Bosnia: in v. Visoko pr. Sarajevo (G. Beck).
- 3) *toemoesense* Simk.! Zahn, in Beitr. Kenntnis Archierac. Ungarns u. Balkanlând., Mag. bot. lap. (1906) p. 68. Folia tantum denticulata minora tenuissima utrimque brevissime pilosa primo aspectu subglabra, caulina 2—3 lanceolata v. lineari-lanceolata. Verosimiliter forma umbrosa macilenta, sed nullo modo ex *H. transsilvanico* et silvatico hybrida. — Secundum flumen Havasutja versus alpem Koehavas 800 m, sol. calc. (Simonkai!), in m. Uenoekoe pr. Rodna (de Degen), in m. Egyeskoe pr. Balán (Janka).
- γ) *alpestre* Zahn. Caulis et caulomata obscura, folia dense pilosa, involucrium obscurum, squamae obtusae v. acutiusculae, glandulae minutae. — In formatione Pini pumilionis in m. Sywula ad fl. Lomnica distr. Stanislaw Galiciae (Wołoszczak).

Exsiccatae: F. Schultz, Herb. norm. nov. ser. cent. I no. 97; Fl. austro-hung. no. 3363, 3364, 3365.

Tab. 82. *H. transsilvanicum* Heuffel (Marburg in Stiria, leg. Murr). 1. Folium rosulare (ex planta pr. Herkulesbad a cl. Baenitz lecta). 2. Margo ligularum. 3. Squama interior. 4. Squama exterior. 5. Pedunculus sub involucrio. 6. Medii caulis portio. 7. Margo et pars superior foliorum. 8. Pilus foliorum (amplific.).

Species intermediae.

50. *Hieracium trebevicianum* K. Maly, in Glasnik zem. muz. Bosni i Herceg. XI (1899) p. 149 et in Wiss. Mitt. aus Bosnien u. Herceg. VII (1900) p. 550; = ***transsilvanicum-bifidum*** Zahn.

Rhizoma crassum. Caulis 30—60 cm altus phyllopodus gracilis v. tenuis strictus substriatus, inferne densius longiusque pilosus, superne breviter subpilosus, basi subvillosus coloratus, usque ad basin ± floccosus, apice densius floccosus v. ± canus, omnino eglandulosus v. apicem versus v. iam supra medium glandulis sparsis v. parum numerosis minutis obsitus. Folia rosularia sat numerosa (4—8) ovata oblonga vel elliptico- v. oblongo-lanceolata obtusa mucronata, exteriora saepe rotundata, interiora acuta, basi subtruncata v. subattenuata v. in petiolum ± longum coloratum contracta, denticulata v. praecipue basin versus ± dentata v. serrato-dentata v. ± inciso-dentata, dentibus glanduloso-mucronatis; caulina 0—2, saepissime 1 sat magnum subpetiolatum v. sessile, e basi lata longe acuminatum, superius angustum v. elongatum bracteiforme; omnia dilute viridia v. sublutescenti-viridia supra glabra v. utrimque breviter pilosa, in margine nervoque dorsali et in petiolo densius pilosa, 1—3 mm, in nervo mediano haud raro subvillosa et subfloccosa, subtus saepe ± colorata. Inflorescentia laxa paniculata rarius subaltefurcata squarrosa suprafastigiata, acladium 5—30 (—50) mm longum, rami primarii (1—) 3—6 remoti, inferior medio cauli insertus (interdum caulis lateralis evolutus), oblique patentes, ordines axium 3—5, capitula 7—30. Involucrium sat

parvum ovatum (7—) 8—9 (—10,5) mm longum basi rotundatum denique truncatum; squamae angustae acuminatae acutiusculae v. acutae obscurae viridi-marginatae, mediocriter floccosae, disperse v. mediocriter, rarius sat dense glandulosae, mediocriter rarius disperse pilosae, pilis brevibus apice dilutis basi atris. Pedunculi consimiles, incani, apice parum incrassati. Bractee 2 (—4) parvae. Flores aureolutei, ligulae apice glabrae, stylus obscurus, interdum primo subluteus; achaenia atrobrunnea 3—3,5 mm longa.

In ditone *H. transsilvanici* in Bosnia et in alpinis carpatho-transsilvanicis. — Floret Maio-Jul.

Dispositio gregum:

- a. *Epiprasinum* Zahn. Involucrum aequè magnum ut in *H. bifido*, indumentum et habitus totius plantae ut in *H. bifido*, sed capitula et pedunculi minute glandulosa, folia supra brevissime subpilosa, novella subtus et in petiolo subvillosa. — Ssp. *epiprasinum*.
- b. *Trebevicianum* Zahn. Involucrum ut in *H. bifido* sed minus et pariter ac pedunculi glandulis obscuris dispersis obsita. — Ssp. *trebevicianum*, drachenburgense.
- c. *Subpleiophyllum* Zahn. Involucrum (et pedunculi) ut in *H. transsilvanico*, sed \pm floccosum et praeter glandulas mediocriter numerosas pilis dispersis v. parum numerosis obsitum. — Ssp. *subpleiophyllum*, deanum.

a. *Epiprasinum*.

Subspecies **epiprasinum**¹⁾ Zahn ined. [cfr. K. Maly, Beitr. Fl. Bosniens u. Hercegov., in Verh. zool.-bot. Gesell. Wien (1904) p. 287]. Rhizoma saepe pluricaule. Caulis 30—50 cm altus subpilosus, superne dense floccosus, basi coloratus. Folia saepissime sat magna \pm longe petiolata ovata v. ovato-lanceolata basi contracta v. in petiolum angustata, apice obtusa mucronata v. breviter acuta, remote glanduloso-denticulata, basin versus saepissime dentata v. grosse dentata, supra gramineo- v. prasino-viridia saepe subglaucescentia et disperse breviterque pilosa, subtus saepissime colorata mediocriter molliterque pilosa, in margine nervoque dorsali et in petiolo breviter subvillosa, in nervo dorsali \pm floccosa; caulinum 0—1 (—2) ovato-lanceolatum subpetiolatum basin versus grosse dentatum saepe in tota parte aversa subfloccosum. Inflorescentia laxè paniculata squarrosa, acladium 10—25 (—50) mm longum, rami primarii 1—3 remoti, ordines axium 3, capitula 3—7 (—10). Involucrum 10—12 mm longum crasse ovatum, squamae sublatiusculae acutiusculae v. acutae subnigrae dilute marginatae mediocriter breviterque pilosae subglandulosae, praecipue marginem versus sat dense floccosae. Pedunculi graciles mediocriter tenuiterque pilosi canotomentosi superne disperse minuteque glandulosi. Flores sat conspicui aureolutei, stylus obscurus.

Bosnia: Inter Rogatica et Han Prača (Fiala), Vranica planina: Matorac, Vitruša (G. Beck), Lisina planina pr. D. Vakuf (id.); Transsilvania: In cacumine m. Schuler pr. Kronstadt, Peatra mare, Valea Cerbului in m. Bucsecs (Roemer).

b. *Trebevicianum*.

Subspecies **trebevicianum** K. Maly l. c. Caulis 48—60 cm altus gracilis breviter subpilosus, basi subvillosus, apicem versus dense floccosus, usque ad medium remote ramosus. Folia \pm elliptica, exteriora obtusa mucronata, interiora elliptico-lanceolata acuta, supra medium denticulata, basin versus dentata v. grosse v. inciso-dentata, dentibus mucronatis antrorsum versis, utrinque breviter pilosa, in nervo dorsali longius subvillosa; caulina (0—) 1 (—2). Inflorescentia laxè paniculata late squarrosa, acladium 5—30 mm, rami primarii 4—6, ordines axium 4—5, capitula 12—30. Involucrum 8—10 mm longum, squamae

¹⁾ Comparandi causa addo subspecies nonnullas novas.

angustae subatrae viridi-marginatae apicem versus disperse-, basin versus densius floccosae, disperse pilosae (1 mm) et disperse v. fere mediocriter minuteque glandulosae. Pedunculi cani, consimiles, caulomata disperse glandulosa et pilosa multifloccosa. Stylus obscurus.

In m. Trebevic pr. Sarajevo (K. Maly!), Bistrički-potok 1050 m, in valle Miljačka pr. Da Riva 580 m, Vareš, Jahorina planina (K. Maly), Treskavica planina (Fiala, Čurčić), Vranji dol (Brandis), Vranica planina: Matorac-Luka (Schwarz); in m. Treskovác pr. Svinica (de Degen).

Tab. 83. *H. trebevicianum* K. Maly (in m. Trebevic pr. Sarajevo, leg. K. Maly). 1. Squama. 2. Pedunculus sub involucri. 3. Nervus dorsalis folii rosularis. 4. Margo et pars superior foliorum.

Subspecies **drachenburgense** Preissm. et Zahn. Folia fere ut in *H. transsilvanico*, capitula *H. bifidi*, sed minute glandulosa ut in *H. transsilvanico*. Caulis 40 cm altus subpilosus, superne dense floccosus, inferne subfloccosus violaceus. Folia rosularia exteriora minora ovata v. elliptica obtusa breviter petiolata denticulata utrinque pilosa, interiora longius petiolata ovato-lanceolata v. oblongo-lanceolata in petiolum cito sensimve angustata denticulata v. basin versus \pm dentata, mollia gramineo-viridia parum glaucescentia, utrinque pilosa, sed praecipue in nervo dorsali petioloque subvillosa v. fere pellita; caulina 1—2, inferius lanceolatum superne glabrescens, in nervo dorsali \pm floccosum, summum lineare. Capitula 4—10, squamae angustae acutae obscurae mediocriter floccosae, pilosae et glandulosae. Pedunculi cani sat dense pilosi glandulosique.

Stiria: In declivibus valleculae „Feistritzgraben“ pr. Drachenburg (Preissmann).

c. Subpleiophyllum.

Subspecies **deanum** Zahn. Caulis 30—40 cm altus gracilis v. tenuis mediocriter breviterque pilosus, usque ad basin \pm dense floccosus. Folia rosularia saepe magna, exteriora ovata obtusa, interiora oblonga acutiuscula, omnia saepissime tenuia, supra gramineo-viridia subglaucescentia breviter subpilosa glabrescentia, subtus densius molliterque pilosa, in nervo dorsali petioloque subvillosa, glanduloso-denticulata v. -dentata; caulina 1—2 sat parva. Inflorescentia paniculata subsquarrosa, acladium ad 25 (—30) mm longum, rami primarii 4—5 (—6) remoti tenues, ordines axium 3—4, capitula (3—) 10—15. Involucrum 7—8 mm longum, squamae angustae acutae sat dense v. dense floccosae, mediocriter glandulosae et pilosae. Pedunculi albido-cani, quoad indumentum consimiles, caulomata superne albido-tomentosa subglandulosa subpilosa. Stylus luteus denique obscurus.

Bukowina: In valle Dea pr. Câmpulung, in m. Muncel pr. Rareu, Czornyj dił in v. flum. Weisser Czeremosz (Wołoszczak).

Subspecies **subpleiophyllum** Zahn. Caulis ad 50 cm altus gracilis disperse breviterque pilosus, apice dense floccosus, basin versus disperse floccosus obscure violaceus. Folia rosularia numerosa ovata v. oblonga obtusa mucronata v. breviter acuminata acutiuscula, dilute viridia parum glaucescentia \pm grosse pluridentata, supra rigidusculae breviterque subpilosa, subtus magis pilosa, in margine nervoque dorsali et in petiolo subvillosa novella subpellita; caulinum 1 sat magnum. Inflorescentia ut in *H. transsilvanico*, acladium ad 10 mm, rami primarii c. 4, arcuato-patentes squarrosi, ordines axium 3—4, capitula c. 12. Involucrum 9 mm longum, squamae subangustae acutiusculae et acutae obscure cinereae dilute submarginatae, dense floccosae, sat dense glandulosae, fere epilosae. Pedunculi cani

mediocriter v. disperse glandulosi saepissime epilosi, glandulae ubique obscurae sat parvae v. interdum magis elongatae.

Variat: 1) normale Zahn. Folia ovata basi truncata v. interdum subcordata. — Dea pr. Câmpulung, Hryniawa in valle fl. Weisser Czeremosz (Wołoszczak).

2) pleiophylloides Zahn. Involucrum minus, pariter ac pedunculi densius glandulosum, pilis tantum solitariis obsitum, sed subdense floccosum. Folia rosularia oblongo-lanceolata v. lanceolata glanduloso-multidentata. — Treskavica planina et in m. Trebevic pr. Sarajevo (Fiala, K. Maly), in valle Mošćanica et in iugo Ivan (id.).

Verosimiliter huc pertinet partim *H. pseudoschmidtii* Schur, Enum. Transsylv. p. 393.

Subspecies **glaucinoïdes** Zahn, in sched. herb. mus. Sarajev. et apud K. Maly, Beitr. Fl. Bosn. u. Herceg., in Verh. zool.-bot. Ges. Wien (1904) p. 286 (nomen solum). Caulis ad 45 cm altus gracilis utrinque breviter subpilosus, inferne densius pilosus subfloccosus, superne dense floccosus. Folia rosularia ovata v. oblonga v. ovato- v. oblongo-lanceolata obtusa v. \pm acuta basi truncata v. subangustata saepissime breviter petiolata, grosse dentata pluridentata, utrinque brevissime subpilosa, in nervo dorsali petioloque sericeo-subvillosa, glaucino-viridia, vel supra glabra; caulinum 1 (—2) breviter petiolatum ovato-lanceolatum basi saepe subcordatum grosse dentatum, superius lineari-lanceolatum parvum grosse dentatum v. haud evolutum. Inflorescentia laxissime paniculata squarrosa, acladium 1—3 (—5) cm longum, rami primarii 2—3 (—5) remoti squarroso-patentes, ordines axium 3, capitula 3—10, involucrum 8—9 mm longum, squamae subangustae acutae obscurae sparsim pilosae sat dense obscureque glandulosae subfloccosae, pedunculi consimiles canotomentosi.

Inter *H. bifidum*, *silvaticum* et *transsilvanicum* quasi intermedium.

Variat: 1) supracalvum Zahn. Folia supra glabra. — Bosnia: Romanja et Treskavica planina [(Ćurčić); Hercegovina: Prenj planina (Ćurčić), Visočica planina pr. Umoljane (Fiala).

2) subpilosum Zahn. Folia supra brevissime subpilosa, involucrum disperse pilosum. — In v. Bosna inter Zenica et Lašva (Ćurčić).

51. Hieracium praecurrens Vukot., in Rad. Jug. Akad. Zagreb. LVIII (1881) p. 164; = **transsilvanicum-silvaticum** Zahn.

Rhizoma crassiusculum. Caulis 30—60 cm altus gracilis v. crassiusculus, interdum subtenuis, striatus, inferne breviter subpilosus v. basin versus densius pilosus, superne magis magisque glandulosus floccosusque, glandulis sat longis \pm tenuibus. Folia rosularia ut in *H. transsilvanico* saepe sat magna ovata obtusa v. rotundata mucronata, basi rotundata v. truncata v. \pm cito in petiolum saepe \pm coloratum sat longum attenuata, tenuia, dilute viridia, remote glanduloso-denticulata v. -dentata, vel ut in *H. silvatico* ovata v. elliptica oblongave obtusa mucronata v. breviter acuta basi subcordata v. truncata v. (interiora) \pm in petiolum decurrentia, minus tenuia, remote glanduloseque subsinuato-dentata v. basin versus more *H. silvatici* dentibus grossioribus munita, semper utrinque breviter molliterque pilosa, in margine dense-, in nervo dorsali densius longiusque pilosa v. in nervo dorsali petioloque \pm villosa, folia novella et praecipue petiolorum basis \pm pellita. Folia caulina 1—2 (—3), inferius petiolatum saepe sat magnum ovatum breviter acuminatum vel minus, oblongum v. oblongo-lanceolatum acutum, superius ovato-lanceolatum v. lanceolatum \pm longe acuminatum,

omnia tantum glanduloso-denticulata v. inferius interdum basi \pm grosse dentatum. Inflorescentia paniculata, aeladium 5—12 mm longum, rami primarii 3—7, inferiores remoti usque ad medium caulem descendentes, ordines axium 3—4, capitula pauca v. 10—20 evoluta. Involucrum semper maius quam in *H. transsilvanico*, crasse ovato-cylindricum denique ovatum, 9—10 mm longum, squamae angustae v. sublatiusculae acutiusculae v. acutae obscurae v. subatrae, rarius subolivaceae, saepissime anguste lateve viridi-marginatae, epilosae, subeffloccosae v. saepissime disperse v. mediocriter floccosae, dense longeque glandulosae, glandulis saepe subatris. Pedunculi epilosi leviter cani dense glandulosi. Bracteae 1—2 minutae. Flores dilute lutei, ligulae apice glabrae, stylus obscurus rarius primo subluteus; achenia subatra.

In ditione *H. transsilvanici* verosimiliter haud infrequens. — Flor. Maio-Jul.

Dispositio gregum:

- a. *Odorans* Zahn. *H. transsilvanico* magis affine. Squamae late viridi-marginatae dorso obscurae, involucrum ovato-cylindricum, glandulae valde tenues subdilutae, sed folia ovata basi truncata v. subcordata silvaticiformia indumento *H. transsilvanici*. — Ssp. *odorans*, gleichenbergense.
- b. *Praecurrens* Zahn. *H. silvatico* magis affine. Squamae obscurae multo minus viridi-marginatae v. fere omnino obscurae, involucrum ovatum, glandulae obscurae crassiores, fere semper \pm floccosum, folia silvaticiformia basin versus \pm grosse dentata. — Ssp. *praecurrens*, mikulinkae.

a. *Odorans*.

Subspecies *odorans* Borbás!; *H. supertranssilvanicum* \times *silvaticum* Borb. in sched. Folia sat magna tenuia utrinque pilosa subcordato-ovata remote repando-denticulata v. basin versus leviter sinuato-dentata, petioli molliter villosa; caulina 1—2, inferius breviter petiolatum radicalibus simile, superius ovato-lanceolatum sat parvum. Capitula 4—12, involucrum 8—9 mm longum fere effloccosum dense diluteque glandulosum. Pedunculi valde tenues leviter cani dense tenuiterque glandulosi. Caulis superne densissime floccosus disperse pilosus mediocriter glandulosus.

Variat: α) *genuinum* Zahn. Ut supra. — Banatus: Herkulesbad 190 m (Borbás, Baenitz).

Exsiccata: Baenitz, Herb. europ. (sub nomine *H. murorum* v. *pallidulum*.)

β) *iaworowae* Zahn. Involucrum obscurum, squamae angustius viridi-marginatae, glandulae obscurae minus tenues. — In m. Jaworowa pr. Mikuliczyn, in valle Dea pr. Cămpulung Bukowinae (Wołoszczak).

Subspecies *gleichenbergense* Zahn. Folia radicalia magna (ad 16:5 cm) elliptico-lanceolata, interiora late lanceolata, omnia grosse multidentata utrinque sat dense pilosa, in nervo dorsali petioloque dense pellita; caulina 2 anguste lanceolata v. 3, tunc inferius lanceolatum dentatum. Caulis usque ad basin \pm floccosus, infra medium \pm pilosus, rami primarii 5—7, capitula ad 25, involucrum 8—9 mm longum ovato-cylindricum.

Stiria: in montibus Wirtberge pr. Gleichenberg (Preissmann).

b. *Praecurrens*.

1. Folia caulina 3—4.

Subspecies *mikulinkae* Zahn. Folia radicalia c. 5 ellipta v. elliptico-lanceolata basin versus cito contracta v. subsensim angustata, exteriora rotundato-obtusa, reliqua \pm acuta,

omnia grosse dentata utrinque pilosa, in nervo dorsali petioloque subpellita; caulina 3—4 praecipue in parte superiore minus pilosa, inferius subpetiolatum basi truncatum elliptico-lanceolatum grosse dentatum, proximum triangulariter lanceolatum basi utrimque bidentatum, reliqua lanceolata v. lineari-lanceolata. Involucrum 8,5—10 mm denique ovatum, squamae angustae obtusiusculae v. acutiusculae obscurae dilute submarginatae, dense obscureque glandulosae parum floccosae. Rami primarii 5 (—7), capitula 12—16 (—20). Pedunculi subnigro-glandulosi.

Galicja orientalis: in m. Mikulinka et in silvis caeduis pr. Jabłonica in valle fl. Pruth (Wołoszczak); Bucsecs pr. Sinaia (Grecescu! sub nomine subcaesium).

1*. Folia caulina (0—) 1—2 cito decrescentia.

Subspecies **praecurrens** Vukot. l. c. Folia radicalia c. 5, exteriora ovata, interiora elliptica elliptico-lanceolata v. lanceolata, apice rotundata acutave, basi truncata v. subcordata v. in petiolum ± longe contracta, denticulata v. praecipue basin versus dentata vel grosse sinuato-dentata v. incisa, utrinque molliter pilosa, in nervo dorsali petioloque subvillosa. Caulis 30—50 cm altus, superne dense floccosus et mediocriter v. sat dense obscureque glandulosus, basin versus molliter pilosus et pariter ac petioli foliorum haud raro ± coloratus. Capitula 4—12 (—30), rami primarii graciles v. interdum ± crassiusculi canofloccosi + dense nigroglandulosi. Involucrum obscurum, squamae angustae v. sublatiusculae dorso nigrae dense nigroglandulosae subfloccosae.

Variat: α) **genuinum** Zahn. Folia utrinque sat dense pilosa (petioli foliorum subvillosi), partim basi subcordata.

- 1) normale Zahn. Folia minora, capitula 4—12. — Herkulesbad (Baenitz), Agram (Vukot.); Stiria: Cilli (de Hayek, de Wettstein), Judendorf, St. Lorenzen — Maria in der Wüste (Preissmann, de Hayek), Rohitsch (Czako); Bosnia: Travnik, Popara, Guča gora (Brandis), in m. Trebevic pr. Sarajevo (Fiala), in declivibus m. Igman planina pr. Vrelo Bosne (id.); Hercegovina: Velež pr. Mostar (Ćurčić!).

Exsicc.: Fl. austro-hung. 3362.

- 2) matoracense Zahn. Folia rosularia ± longe petiolata sat magna subacuta, interiora longe acuminata, omnia irregulariter et ± grosse dentata. — Bosnia: Vranica planina: Matorac (G. Beck).
- 3) mucescens Vukot., Hier. croat. l. c. Folia sat magna, rami primarii ad 10, capitula 30—40. — Agram (Vukot.); Bosnia: Banjaluka (Hofmann), Han Begovo (Ćurčić).

Exsicc.: F. Schultz, Herb. norm. nov. ser. cent. III no. 293.

- β) **subserratifolium** Zahn; *H. serratifolium* Vukot., Rad. Jug. Akad. Zagr. LVIII (1881) p. 164; nec. Jordan. Folia saepissime in petiolum ± attenuata, minus breviterque pilosa, grosse glanduloso- et subserrato-dentata; capitula 5—12; glandulae subtenuae; stylus subluteus. — In subalpinis pr. Travnik (Brandis), Vranica planina: Prokosko jezero (Schwarz); Agram (Vukot.).

Exsicc.: Fl. austro-hung. no. 3361.

- γ) **crepidifrons** Zahn. Folia rosularia longe petiolata late lanceolata in petiolum ± sensim angustata, grosse sinuato- et multidentata (dentibus trian-

gularibus in petiolum descendentibus), brevissime pilosa primo aspectu supra \pm glabra, sed in nervo dorsali petioloque more *H. transsilvanici* subvillosa. Squamae late viridi-marginatae dense subnigro-glandulosae. — Bosnia: Kriva glava pr. Novi (G. Beck).

Tab. 84, Fig. A. 1—3. *H. praecurrens* Vukot. ssp. *praecurrens* Vuk. α) *genuinum* 1) *normale* Zahn (pr. Herkulesbad, leg. Baenitz). 1. Squama. 2. Pedunculus sub involucrio. 3. Margo et pars superior foliorum.

52. Hieracium iablonicense Woł., in Trzeci Przyczynek do flory Pokucia, tom. XXV Sprawozd. komis. fizyogr. Akad. Umiejętności p. 66 (Krakau 1890); = **transsilvanicum-vulgatum** Woł, l. c.

Phyllopodum. Caulis 40—60 cm altus strictus striatus gracilis disperse v. mediocriter pilosus, 1—2 mm, superne dense floccosus, inferne subfloccosus, basin versus obscure violaceus. Folia rosularia c. 5, exteriora ovata spathulata, reliqua late lanceolata v. lanceolato-spathulata, apice rotundata mucronata v. acutiuscula, glanduloso-denticulata v. \pm dentata, in petiolum brevius longius attenuata, supra breviter disperseque pilosa, subtus subpilosa, in nervo dorsali et in petiolo more *H. transsilvanici* densius longius pilosa subvillosa; caulina 2—3 (—4) remota saepe sensim decrescentia, inferiora subpetiolata lanceolata, reliqua basi cuneata sessilia sat longa angustiora \pm longe acuminata denticulata, in nervo dorsali v. summa in tota parte aversa subfloccosa; omnia dilute viridia. Inflorescentia paniculata, aeladium 10—15 mm longum, rami primarii 3—5 tenues oblique erecti dense floccosi, inferiores elongati, ordines axium 3—4, capitula pauca v. sat numerosa. Involucrum gracile cylindricum denique subovatum sat parvum 8—9 mm longum, squamae obscurae, interiores viridi-submarginatae, acutiusculae v. acutae subfloccosae sat dense glandulosae epilosae v. pilis solitariis praeditae, glandulae minutae. Pedunculi tenues densissime floccosi mediocriter vel sat dense glandulosi epilosii. Bractee 1—3 minutae. Flores saturate lutei, ligulae apice glabrae, stylus obscurus; achaenia subatra.

„Differt a *H. vulgato* foliis minus incis et minus dentatis, siccis colorem foliorum *H. transsilvanici* revocantibus, basalibus persistentibus, obtusioribus, pedunculis magis distantibus, arcuato-adscendentibus, capitulis minoribus, involucris pallidioribus; a *H. transsilvanico* imprimis innovatione, forma foliorum subtus tenuiter stellato-pubescentium, capitulis maioribus“ (Woł. l. c.).

Hab. in Galicia orientali, in Bukowina et in Hungaria. — Flor. Jul.

Subspecies **iablonicense** Woł. l. c. Folia tantum denticulata v. basin versus subdentata, caulomata epilosa. Involucrum gracile cylindricum 8—9 mm longum.

1. *normale* Zahn. Involucrum et pedunculi sat dense glandulosi. — In m. Mikulinka pr. Jabłonica in valle fl. Pruth (Woł.); in m. Piatra Strucu pr. Felsoe-Vidra (de Degen).

2. *subglandulosum* Zahn. Involucrum et pedunculi disperse glandulosi. — Mikulinka pr. Jabłonica Tatarow (Woł.).

Tab. 84, Fig. B. 4—6. *H. iablonicense* Woł. 2) *subglandulosum* Zahn (e m. Mikulinka, leg. Woł.). 4. Squama. 5. Pedunculus sub involucrio. 6. Margo et pars superior foliorum.

53. Hieracium caesiogenum Wöl. et Zahn n. sp. = **transsilvanicum** — **caesium** Zahn.

Rhizoma crassum. Caulis 45—55 cm altus angulato-striatus gracilis v. subcrassiusculus, superne densissime floccosus mediocriter breviterque pilosus sparsim glandulosus, inferne subfloccosus densius pilosus basi violaceus. Folia rosularia 3—8 petiolata, exteriora saepe minora ovata obtusa basi truncata v. breviter contracta, interdum sat magna, interiora ovato-lanceolata v. oblongo-lanceolata ± in petiolum attenuata acutiuscula v. acuta, dilute (saepe sublutescenti-) viridia subglaucescentia, supra disperse breviterque pilosa, interiora saepe in nervo mediano supra subfloccosa, pleraque ± glabra sublucida, subtus mediocriter breviterque pilosa, in margine nervoque dorsali et in petiolo ± dense breviterque pilosa, novella more *H. transsilvanici* utrinque ± dense pilosa, omnia glanduloso-denticulata v. basin versus grosse sinuato-dentata v. pinnatifida, petioli basin versus violacei. Folia caulina 2, inferius subpetiolatum lanceolatum basi grosse dentatum in nervo-dorsali subfloccosum, summum lanceolatum v. lineari-lanceolatum denticulatum, in tota parte aversa subfloccosum. Inflorescentia indeterminata paniculata, acladium 3—5 cm longum, rami primarii 6—9, superiores ± conferti, inferiores valde remoti (saepe caules laterales evoluti) elongati, ordines axium 3, capitula (10—) 15—20 (—25). Involucrum 10—12 mm longum ovatum, squamae obscure cinereae angustae, exteriores obtusiusculae interiores acutiusculae dilute marginatae apicem versus saepe obscuriores subglandulosae subfloccosae subpilosae (2 mm). Pedunculi cani subpilosi mediocriter glandulosi. Bracteae 2—4 minutae. Flores aureolutei, ligulae apice glabrae, stylus obscurus; achaenia subatra.

Ad limites Galiciae et Bukowinae: in m. Berdo pr. Hryniawa et secundum rivum Hramitny pr. Hryniawa (Wołoszczak).

Tab. 85. *H. caesiogenum* Wöl. et Zahn (e loco class.). 1. Squama. 2. Pedunculus sub involucrio. 3. Nervus dorsalis. 4. Margo et pars superior folii rosularis.

54. Hieracium pseudofastigiatum Degen et Zahn, apud Zahn, in Mag. bot. lap. (1906) p. 68 = **transsilvanicum**—**vulgatum**—**bifidum** Zahn l. c.

Rhizoma crassum, fere horizontale. Caulis erectus tenuis angulato-striatus superne subfloccosus et tenuiter glandulosus, epilosus, inferne pilis mollibus albidis breviter subpilosus, 35—50 cm altus. Folia tenuia, radicalia complura tenuiter et longe petiolata, late ovata sat magna, basi truncata v. abrupte breviterque in petiolum subattenuata, apice obtusiuscula v. breviter acuta, mucronata, tenuiter subdenticulata v. basin versus denticulata, supra pilis nonnullis brevissimis praedita v. omnino epilosa, subtus parcepilosa, in nervo mediano et in margine petioloque pilis tenuissimis 0,5—1,5 mm longis subpilosa, effloccosa, supra saturate, subtus dilute v. sordide viridia, tenuiter reticulato-venosa; caulina 4 (—5), inferiora late ovato-lanceolata breviter petiolata basi rotundata abrupte in petiolum decurrentia, superiora fere sessilia minora breviter acuminata acutissima, summum bracteiforme. Inflorescentia laxa paniculata 3—25 cephalis, acladium c. 15 mm longum, rami primarii 2—6 (—8) subremoti; involucrum 8—9 mm longum cylindrico-ovatum demum depressum, squamae subangustae acutiusculae apice barbulatae obscurae margine pallidae, sat dense floccosae subcinereae, dense tenuiterque glandulosae epilosae; pedunculi obscure cani densissime et breviter glandulosi epilosi. Bracteae 1—3 obscure canae. Ligulae saturate luteae apice breviter ciliatae, stylus obscurus; achaenia nigro-brunnea.

Hab. in fagetis montis Domugled pr. Herkulesfürdő (Lengyel, de Hayek, Harald Lindberg fil.). — In montibus Stara planina Bulgariae (Neičeff).

Tab. 86. *H. pseudofastigiatum* Deg. et Zahn (e m. Domugled, leg. H. Lindberg). 1. Squama. 2. Pedunculus sub involucri. 3. Portio e caule medio. 4. Pars superior foliorum, portio e apice folii.

Sectio VII. **Pannosa** [Zahn, Mag. bot. lap. (1906) p. 69; *Andryaloidea Orientalia* Fries, Epicr. (1862) p. 74]. — Caulis hypophyllopodus (v. interdum aphyllipodus) foliosus, folia caulis basin versus v. altius \pm dense conferta (caulis pseudophyllopodus ut in formis *H. racemosi*) abrupte decrescentia, sat magna, pilis crispis vario modo plumosis \pm tomentosa v. pellita saepe in margine basin versus et in nervo dorsali petioloque glandulis minutissimis solitariis (more *H. racemosi*) praedita. Inflorescentia longe furcata v. paniculata, capitula magna longe lanata v. dense floccosa v. omnino glabra, haud raro glandulis solitariis numerosisve obsita, pedunculi consimiles, squamae acuminatae acutae saepe valde imbricatae, stylus luteus; alveoli margine haud ciliati. Achaenia straminea v. dilute v. luteo-brunnea.

Dispositio specierum:

1. Inflorescentia longe furcata.
2. Involucrum et pedunculi densissime plumoso-pilosa . . . *H. pannosum* Boiss. et *H. Bornmuelleri* Freyn.
- 2*. Involucrum et pedunculi omnino glabra v. interdum glandulis pilisque paucis praedita, sed semper effloccosa *H. gymnocephalum* Griseb.
- 1*. Inflorescentia laxa paniculata v. altefurcata.
Involucrum subfloccosum v. dense floccosum, epilosum v. parcepilosum, fere eglandulosum v. saepissime glandulosum *H. Waldsteinii* Tausch.

55. Hieracium Waldsteinii Tausch, in Flora (1828) Erg.-Bl. I p. 65; *H. lanatum* W. Kit., in Willd., Sp. pl. III 3 (1800) p. 1586; Pl. rar. Hung. II (1805) p. 135, tab. 127; N. P. II p. 335 p. p. Hue pertinent *H. thapsiforme* Uechtr. [ex Ascherson et Kanitz, Cat. cormophyt. serb. p. 43 (1877); N. P. II p. 290], *H. plumulosum* A. Kern. [Oesterr. bot. Zeitschr. (1874) p. 169], *H. lanifolium* N. P. II p. 293, etc.¹⁾

Caulis 25—50 cm altus erectus rigidus crassus v. gracilis saepissime valde striatus hypophyllopodus. Folia infima florendi tempore emarcida, caulis basi vaginis tenuibus nudis foliorum destructorum involutus. Folia caulina numerosa, pleraque inferiori tertiae parti caulis inserta conferta v. dense aggregata rosuliformia, conspicua v. magna \pm crassiuscula, obovata v. elliptica basin versus angustata v. inferiora \pm breviter petiolata, pilis eximie plumosis sericeis brevissimis v. longioribus densissime albotomentosa, sursum sensim v. abrupte decrescentia et remota bracteiformia, proinde caulis pars superior quasi haud foliata scapiformis. Inflorescentia laxa paniculata v. tantum alte furcata indeterminata suprafastigiata v. ramis caulem haud superantibus; acladium 10—100 mm longum, saepe sat breve, ad summum $\frac{1}{4}$ totius caulis exhibens; rami primarii 1—5 remoti graciles oblique patentes,

¹⁾ Bene cognosco explicationes valde ineptas *G. Schneideri* [in K. Maly, Beitr. Kennt. Fl. Bosniens u. Hercegovina, in Verh. zool.-bot. Ges. Wien (1904) p. 288 seq.], qui *H. plumulosum* A. Kern., *gymnocephalum* Griseb., *lanifolium* N. P. varietates *H. bosniaphili* (sic!) sui declarat, speciei secundum G. Schneider intermediae inter *H. stipposum* Reichb. fil. et *H. thapsiforme* Uechtr. Haec opinio G. Schneideri aequae vero abhorret ac illud, quod *H. dacicum* Uechtr. et *H. pocuticum* Wot. (vide K. Maly l. c. p. 294 et 295) in Bosnia nasci contendit.

ordines axium 2—3, capitula (2—) 4—7 (—15). Involucrum 9—13 mm longum late globosum denique late ventricosum-depressum, squamae latiusculae v. latae lineares v. lanceolatae acutae, dilute virides v. obscurae dilute marginatae, floccis albidae v. fere effloccosae. Pili involucri nulli v. ± sparsim evoluti, caulomata pilosa v. ad summum disperse pilosa, infra caulem medium cito denseque evoluti, caulis deorsum densissime villosus-pellitus; folia pilis eximie plumosis brevissimis crispis densissime albo-tomentosa quasi cretata v. pilis plumosis subelongatis directis dense pellita. Glandulae in involucrio fere semper evolutae interdum fere subnullae minutae, saepius mediocriter numerosae v. densae elongatae, caulomata superne subglandulosa interdum fere eglandulosa, glandulae semper citissime deminutae et nullae. Flocci in involucrio saepissime densissimi rarius dispersi, caulomata superne dense floccosa, inferne ± effloccosa v. flocci usque ad caulis basin descendentes, folia effloccosa. Flores lutei semper lingulati, dentes ligularum glabri, stylus luteus. Achaenia straminea v. dilute brunnea, (2,5—) 3—4 mm longa.

Croatia, Bosnia, Hercegovina, Montenegro, Albania, Serbia, Bulgaria. — Fl. Iul.—Aug.

Dispositio gregum:

- a. *Plumulosum* Zahn. Folia pilis brevissimis valde crispis cirratis densissime albotomentosa saepius quasi cretata, acladium 8—30 mm longum, involucra dense albido-floccosa v. tomentosa. — Ssp. *plumulosum*, *nipholeucum*, *thapsiforme*.
- b. *Suborieni* Zahn. Folia ut in grege *Plumuloso*, acladium interdum paulo longius, involucra fere effloccosa v. saepissime basin versus subfloccosa maiora obscura. Transitus primus *plumulosum* → *orien*. — Ssp. *suborieni*.
- c. *Lanifolium* Zahn. Folia pilis subelongatis saepe sericeis 3—6 mm longis directis flexuosis densissime tomentoso-pellita, acladium (1—) 3—8 (—12) cm longum, involucra ± dense albifloccosa. — Ssp. *Delpinoi*, *sublanifolium*, *lanifolium*.

a. *Plumulosum*.

1. *Caulis effloccosus* v. *apice tantum parceffloccosus*, ± *viridis*.

Subspecies ***plumulosum*** A. Kerner l. c.; *H. gymnocephalum* N. P. II p. 292 p. p.; nec Griseb.; *H. plumulosum*, *Vlasitschense* et *Brandisii* Freyn, Bull. herb. Boissier (1895) no. 10. Folia versus caulis basin v. altius dense conferta, abrupte decrescentia sursum remota et saepe bracteiformia, rarius sensim decrescentia subremota aequaliter dispersita, late obovata v. elliptica v. lingulata obtusa v. acutiuscula mucronata, integerrima, sensim in petiolum ± brevem latissime alatum angustata. Caulis 30 ad 50 cm altus subsulcato-striatus eglandulosus effloccosus v. omnino pilis brevissimis eximie plumosis valde crispis disperse lanatus, cum plurimum apicem versus tantum parceffloccosus. Inflorescentia laxa paniculata, acladium 10—30 mm rarissime longius, rami primarii 3—5, inferiores valde remoti saepissime valde abbreviati, capitula (1—) 3—6 (—15, sed ramalia inferiora saepissime haud evoluta). Involucrum 10—12 mm longum, squamae lanceolatae acutae obscure canae fere immarginatae, densissime floccosae mediocriter v. sat dense glandulosae pilosae v. pilis plumosis brevibus subpilosae, tum minus glandulosae. Pedunculi dense floccosi v. subfloccosi mediocriter glandulosi v. fere eglandulosi pilosi v. rarius parcepilosi, glandulae ubique dilutae. Achaenia dilute luteo-brunnea.

Variat: a) ***genuinum*** Zahn; *H. Brandisii* Freyn, Bull. herb. Boiss. (1895) no. 10; *H. Schlosseri* Freyn olim in sched. Caulis supra medium omnino epilosus et saepissime scapiformis (folia abrupte decrescentia).

1. *normale* Zahn. Involucra et pedunculi pilosa canofloccosa glandulosa

v. pedunculi tantum subfloccosi (tum caulomata effloccosa). — Bosnia: In m. Vlašić pr. Kajabaša (Brandis); Hercegovina: Glogovo planina pr. Jablanica (Fiala!).

2. subpilosum Zahn. Involucra (et interdum etiam pedunculi pilis) solitariis praedita. — Bosnia: In m. Vlašić pr. Kajabaša (Brandis), Trebević pr. Sarajevo 1400 m (Fiala).

β) **plumulosum** A. Kerner l. c. Caulis omnino pilis brevibus plumosis sursum saepe minus numerosis obsitus, pedunculi et involucra breviter mediocriterque plumoso-pilosa.

1. normale Zahn (*H. plumulosum* verum A. Kerner; *H. plumulosum* Freyn l. c. p. p.). Caulis (20—) 30—50 cm altus, basi tantum dense foliosus pseudophyllopodus, saepe summae tres partes scapiformes v. foliis paucis remotis parvis obsitae. — In m. Lovcen et Orjen 1250—1650 m pr. Cattaro Dalmatiae (Pichler). Bosnia: In m. Vlašić pr. Kajabaša (Brandis), in m. Romanja planina: Crvena stjena (G. Beck). In v. Narentatal (R. Keller). Montenegro: in rup. calc. inter Njegus et Cetinje (Sagorski).
2. vlasitschense Freyn l. c.; *H. tridentatum* < *Waldsteinii* Freyn l. c.; *H. Schlosseri* Freyn olim in sched. p. p. Caulis 40—60 cm altus, foliis numerosis subremotis sensim decrescentibus saepe minute denticulatis acutiusculis mucronatis magis elongatis late lanceolatis v. oblongis obsitus, involucrum paulo maius. — In m. Vlašić pr. Kajabaša 14—1600 m (Brandis).

Nullo modo propria species! Involucrum ad summum 13 mm longum nunquam 15 mm ut Freyn l. c. docet). Ab *H. plumuloso* typico tantum foliis usque ad apicem caulis sensim decrescentibus differt. Formulae *tridentatum* < *Waldsteinii* nullo modo respondet. Ut in *H. racemoso* formas pseudophyllopodas in formas regulariter foliosas transeuntes videas.

Exsiccata: F. Schultz, Herb. norm. cent. XXVI no. 2560 et Baenitz, Herb. europ. (1897); Fl. austro-hung. 3334 p. p.; Zahn, Hieraciotheca Europ. no. 60.

Tab. 87. *H. Waldsteinii* Tausch ssp. *plumulosum* A. Kern. (α 2) (e m. Vlašić, leg. Brandis). 1. Squama. 2. Pedunculus sub involucro. 3. Pilus caulis (c. 20:1). 4. Pilus marginis foliorum (c. 100:1).

1* Caulis subfloccosus, caulomata canotomentosa.

Subspecies **nipholeucum** Zahn; *H. Baldaccii* Halacsy, Oesterr. bot. Zeitschr. (1891) p. 223, nomen solum; nec. *H. Baldaccianum* Freyn, Bull. herb. Boiss. (1895) no. 10; *H. Delpinoi* Freyn l. c. p. 660; nec. Baldacci in sched.! et Malpighia VI (1892), Sep. p. 113. Caulis 20—45 cm altus basi v. in inferiore parte tertia densissime tomentosus et dense foliatus, pseudophyllopodus v. hypophyllopodus. Folia magna late elliptica v. ovato-rhomboidea (16:5 ad 18:6 cm) saepissime in petiolum distinctum brevem haud crassum breviter angustata obtusa mucronata v. acutiuscula integerrima v. saepe levissime remoteque sinuato-denticulata, dentibus minutis obtusiusculis, interdum margine subundulata, abrupte decrescentia, super folia conferta 4—7 multo minora ovata sessilia evoluta, omnia crassiuscula pilis brevissimis

plumosis valde crispis densissime et crassiuscule tomentosa nipholeuca, (etiam petioli) tomento adpresso, itaque in parte aversa nervis prominentibus. Inflorescentia racemosa v. laxè paniculata, acladium 5—15 (in formis putatis ad 50) mm longum, rami primarii 2—7 tenues obliqui, superiores subconferti infimi remoti, ordines axium 3 (—4), capitula 5—15 (—25), involucrium 7—10 (—11) mm longum, squamae imbricatae lanceolatae acutae canovirides v. incanae dilutius marginatae, densissime canofloccosae v. albae dense minutissimeque luteo-glandulosae epilosae; pedunculi ad 6 bracteati tenues canofloccosi minutissime glandulosi epilosi. Caulis ubique floccosus v. partim effloccosus, interdum in parte inferiore usque ad medium plumoso-subpilosum. Achaenia 2,5—3,5 mm longa, denique dilute luteo-brunnea.

Hab. in Albania: in rupestribus supra Selce, distr. Klementi (A. Baldacci, Iter Alban. VII no. 281!), in rupestr. fl. Brskut, distr. Kuçi (A. Bald., It. Alban. VIII no. 257!), ad fl. Cem pr. Selce (A. Bald., It. Alban. VIII no. 155!), in rup. ad Strapçe [Mala Rijeka] (A. Bald., It. Alb. VIII no. 189!), in rup. m. Joko (v. Soko?), distr. Trijepši (A. Bald., It. Alb. VIII no. 96!) Montenegro: in rup. travertineis ad cataractam rivuli sub coenobio St. Stephani Morača. (Baldacci sub nomine *H. Baldaccii* Halacsy!) et in conglomeratis ad Kolaschin (Bald.).

Capitula et caulomata plantae iunioris sunt valde lacteo-tomentosa et specie quasi eglandulosa glandulis valde brevibus in tomento occultis. Itaque cl. Freyn describit plantam omnino „eglandulosam.“ *H. Delpinoi* Baldacci!, in sched. auctoris ipsius, ab nostra subspecie omnino diversum est et cum descriptione cl. Freynii, in Bull. herb. Boiss. l. c. nullo modo convenit, quia Freyn nostram subspeciem hoc loco describit.

Subspecies **thapsiforme** Uechtr., in litt. ad Panicé, et apud N. P. II p. 291; nec Vis., Fl. dalm. suppl. alt. p. 64, tab. VI; nec Freyn, in Bull. herb. Boiss. (1895) no. 10; *H. thapsoides* Panicé, Elench. Crna gora (1875); nec Arv.-Touv. — *H. nipholeuco* valde affine, sed differt acladio 4—8 cm longo, involucriis pilis plumosis mollibus 0,5—1 mm longis obtectis pariter ac pedunculis omnino eglandulosis, etc.

Hab. in Serbia: in montibus Mokragora (Panicé.). In Montenegro verosimiliter deest.

Planta Visianii et Freynii cum descriptione auctorum N. P. l. c. nullo modo congruit, qui plantam Panicéianam a cl. Uechtritz denominatam describunt.

b. Suborieni Zahn.

Subspecies **suborieni** Zahn = *plumulosum* > *gymnocephalum* Zahn; *H. gymnocephalum* β) *plumulosum* 2) *nudicaule* N. P. II p. 293 p. p.; nec Griseb. Folia magna ter longiora quam lata, 10—20 cm longa, late elliptica obtusa v. saepissime acutiuscula mucronata basi sensim in modum petioli angustata, leviter remoteque sinuato-denticulata, pilis plumosis brevissimis valde crispis densissime adpresso-tomentosa crassiuscula, tomento sericeo laxiore quam in grege Plumuloso, in inferiore caulis parte ± dense conferta, abrupte decrescentia. Caulis ad 60 cm altus, inter folia magna densissime tomentosus, supra folia magna scapiformis omnino glaber obscure viridis, caulomata etiam obscuriora. Inflorescentia paniculata v. altefurcata, acladium 1—5 cm longum, rami primarii ad 8, inferiores remoti oblique patentes siccitate obscuri, ordines axium 3, capitula 3—8 (—20), ramalia inferiora saepe haud evoluta. Involucrium sat magnum late ventricosum-globosum depressum 11—14 mm longum obscure olivaceum more *H. gymnocephali*, squamae latae lanceolatae acuminatae acutae imbricatae obscure v. interiores praecipue in margine dilutius olivaceo-virides, dense minuteque luteo-glandulosae, epilosae, secundum nervum dorsalem parcefloccosae, exteriores basin versus subfloccosae. Pedunculi obscure virides subsulcato-striati (ut etiam caulis), apice

leviter incrassati et subfloccosi minuteque subglandulosi, basin versus cito glabri. Bractee 3—6 squamiformes. Ligulae sat conspicuae, achenia dilute luteo-brunnea.

Hab. in Bosnia australi: In valle Miljačkatal prope Sarajevo: iuxta pagum Da Riva 560 m (K. Maly), Plaška planina (G. Beck); Hercegovina: In montibus Glogovo planina pr. fontem Alina voda (K. Maly), in Grabovica pr. Jablanica (G. Beck), in rupestribus m. Visočica planina pr. Umoljani, distr. Konjica (Fiala); Montenegro: in montibus Lovcen!, Stürovnik! et Sella! pr. Cattaro (Pichler, in Fl. austro-hung. exs. no. 3334 p. max. p.); Dalmatia: in m. Orjen 1600 m (Vandas!); Serbia occidentali: in m. Kovlje et Mokragora (Panc. apud N. P. II p. 293).

c. *Lanifolium* Zahn.

Subspecies **sublanifolium** Zahn; *H. gymnocephalum* N. P. II p. 292 p. p.; Sagorski exsicc.; *H. lanatum* var. *canostellatum* Huter exsicc.; *H. thapsiforme* Freyn, in Bull. herb. Boiss. (1895) no. 10; Vis., Fl. dalm. suppl. alt. p. 64, tab. VI; nec Uechtr. Inter *H. plumulosum* et *H. Schlosseri* Rehb. fil. quasi intermedium. Caulis 30—40 cm altus subsulcato-striatus epilosus v. disperse pilosus eglandulosus apice floccosus saepissime usque ad inferiorem partem lanatam subfloccosus, basi v. paulo altius dense foliatus, saepissime pseudophyllopodus v. interdum hypophyllopodus, summae duae partes scapiformes virides. Folia magna ovata v. oblongo-ovata v. elliptica acutiuscula v. breviter acuta mucronata basin versus attenuata interdum late alato-subpetiolata, rarissime remote denticulata, fere semper integerima, utrimque pilis sericeis albis crispis basi plumosis apice flagellatis ad 3 mm longis dense tomentoso-lanata, sed color dilute viridis distincte translucens, in nervo dorsali praecipue basin versus pariter ac in caulis basi pilis longioribus densissime villosopellita, supra folia magna 1—2 multo minora v. tantum bracteiformia inserta, haec supra saepissime (epilosa lineari-lanceolata. Inflorescentia laxa paniculata indeterminata, acladium 1—5 cm in plantis putatis ab animalibus depastis saepe ad 8 cm) longum, rami primarii 2—5, inferiores valde remoti arcuato-patentes, ordines axium 3, capitula 3—10, ramalia inferiora saepe haud evoluta. Involucrum 11—12 (—13) mm longum late globosum denique ventricosum depressum, squamae valde imbricatae lanceolatae acutae obscurae dilutius submarginatae, dense floccosae v. canae, pilosae v. disperse pilosae, fere eglandulosae v. saepius sat dense glandulosae. Pedunculi crassiusculi rigidi dense floccosi v. canotomentosi, fere eglandulosi v. subglandulosi saepissime epilosii. Achaenia 4—4,5 mm longa, matura dilute luteo-brunnea.

Hab. Hercegovina: In declivitatibus montosis m. Porim pr. castellum Ruište pr. Mostar 1400 m (Vandas!), in m. Glogovo planina pr. Jablonica (Vandas), inter Artovac et Bilek pr. Trebinje (Brandis), ad limites Hercegovinae-Bosniae ad Krstac (id.); Bosnia: in m. Ilica 1550—1650 m (Handel-Mazzetti et Janchen), in m. Vlačić pr. Kajabasa (Brandis), Han Stepen ad limites Cernagorae 920 m (id.); Montenegro: Lovcen (Gelmi), Krstac pr. Cattaro (G. Beck), Njegus 1000 m (Sagorski); Dalmatia: In m. Stürovnik (Pichler), Matteo in Dobrota (Studniczka), Velebit (leg.?), Mte Vipera (G. Beck), in m. Mossor pr. Spalato (de Degen); Croatia: in m. Sveto Brdo ad pagum St. Rochus in limite dalmatico 1850 m (Borbás).

Variat: 1) normale Zahn; *H. thapsiforme* Freyn l. c., nec N. P. Caulomata et involucria epilosa v. interdum pilis valde solitariis obsita.

a) *subglandulosum* Zahn. Involucrum et pedunculi dense floccosa fere eglandulosa. — Bosnia: Han Stepen.

b) *glandulosum* Zahn. Involucrum mediocriter v. sat dense glandulosum. — Njegus, in m. Vlašić, etc.

2) *subpilosum* Zahn. Caulomata sparsim v. sat disperse pilosa, involucrum sat dense floccosum et glandulosum, pilis solitariis v. mediocriter numerosis longe flagellatis ad 2,5 mm longis obsitum. — Njegus, Vlašić, Krstac, etc.

Subspecies **Delpinoi** Bald.! in sched. et in Altre notizie intorno alla flora del Montenegro, in Malpighia VI (1892), Sep. p. 113; nec Freyn, in Bull. herb. Boiss. (1895) no. 10. — *H. nipholeuco* (= *H. Baldaccii* Halacsy) valde similis, at praecipue differt foliis laxius tomentoso-et sericeo-lanatis nec brevissime adpresso-tomentosis. Caulis crassiusculus 25—50 cm altus superne scapiformis ± floccosus epilosus. Folia in caulis basi v. paulo altius conferta magna oblongo-ovata v. elliptica obtusa v. acutiuscula mucronata, inferiora breviter petiolata, omnia basin versus angustata, in margine irregulariter leviterque subundulato-sinuata, crassiuscula, pilis 2—3 mm longis sericeis plumosis apice flagellatis densissime crispo-sublanata subtomentosa, in nervo dorsali petioloque pilis ad 5 mm longis albo-sericeis densissime villosopellita, color lutescenti-viridis per indumentum translucens. Acladium (10—) 30—45 (—65) mm longum, rami primarii ad 6 remoti oblique erecti, ordines axium 3, capitula pauca v. ad 16. Involucrum 9—12 mm longum, squamae latiusculae lanceolatae acutae obscurae sed floccis albido-canace, epilosae minutissime subglandulosae (glandulae in planta nondum florente inter tomentum occultae). Pedunculi dense floccosi fere eglandulosi. Bracteae c. 4 squamiformes. Achaenia dilute luteo-brunnea.

Variat: α) **genuinum** Zahn. Involucrum dense floccosum microglandulosum. — Albania: in saxosis m. Vels, distr. Zarima (A. Baldacci, Iter Alb. V no. 129!), in glareosis ad Gjuraj infra Gioani et Planti, distr. Skutari (A. Bald. l. c. no. 186!).

β) **glandulosum** Zahn. Involucrum et pedunculi minus dense floccosi sat dense glandulosi, glandulis longioribus etiam in apicem caulis descendentibus. — Greća (Trijepsi), distr. Klementi Albaniae (A. Bald., It. Alb. VIII no. 265).

Subspecies **lanifolium** N. P. II p. 293; verosimiliter = *H. lanatum* W. Kit. l. c. = *H. Waldsteinii* Tausch, in Flora (1827), Erg.-Bl. p. 65; nec N. P.; *H. eriophyllum* Vukot. in sched. et in Rad. jugosl. Akad. VII p. 77 (1869); nec alior. Transitus *plumulosum* > *Italica*. Caulis 30—45 cm altus gracilis striatus hypophyllopodus. Folia subnumerosa caulis basin versus ± dense conferta (caulis pseudophyllopodus) sat magna elliptica v. lanceolata basin versus angustata, acuta, argute v. subsinuato- et serrato-dentata dilute viridia subcrassiuscula, abrupte decrescentia, caulis duae partes superiores scapiformes, 3—5 foliis parvis lanceolatis v. linearibus remotis ± bracteiformibus obsitae. Inflorescentia saepissime alterfurcata, acladium 3—6 (—11) cm longum, rami primarii 1—3 (—5) remoti graciles subarcuato-ascendentes, ordines axium 2—3 (—4), capitula 2—5 (—16). Bracteae 3—4 minutae. Involucrum 12—13 mm longum subventricosum, squamae latae lanceolatae acutae obscurae dilutius marginatae. Pili in involucrio nulli v. dispersi diluti 2—3 mm longi, caulomata saepissime pilosa, caulis inter folia magna densissime pilosus, folia utrimque pilis albis sericeis basi subplumosis apice longe flagellatis 4—6 mm longis densissime villososublanata, color viridis eximie translucens. Glandulae involucri densae, breves longioribus immixtae, in pedunculis superne tantum dispersae. Flocci involucri densi, pedunculi superne dense

floccosi, inferne minus floccosi, caulis usque ad partem lanatam subfloccosus. Achaenia dilute luteo-brunnea, 3,5 mm longa.

Hab. Croatia: Velebit (Vukot.), Lubiko Brdo (Pichler), inter Brusano et Ostaria (de Degen!); in m. Crnopak supra Gračac 1300 m (de Degen!), in montibus Laginac et Badani pr. Ostaria (Pichler, Fl. austro-hung. 3335!); Bosnia: Osječenica planina pr. Petrovac (Fiala), in rupestribus ad Barica haud procul a Mrković pr. Sarajevo (K. Maly), ad saxa calc. pr. Sarajevo (G. Beck), Ravni potok pr. Drvar 680 - 750 m (Jänchen).

Tab. 88. *H. Waldsteinii* ssp. *lanifolium* N. P. (inter Brusano et Ostaria, leg. A. de Degen). 1. Margo ligularum. 2. Squama. 3. Pedunculus sub involucrio. 4. Pilus marginis foliorum (20:1).

56. Hieracium gymnocephalum Griseb., apud Pantocsek, Oesterr. bot. Zeitschr. (1873) p. 266; nec N. P. II p. 292.

Caulis gracilis v. crassiusculus 15—65 cm altus subsulcato-striatus (pseudophyllopodus v.) hypophyllopodus, inferne inter folia magna dense lanato-tomentosus, superne omnino glaber obscurus v. pilis solitariis praeditus, semper effloccosus, apicem versus interdum sparsissime glandulosus. Folia ad 15 in caulis basi dense conferta v. parum remota et in inferiore tertia v. dimidia parte caulis inserta magna lanceolato-oblonga v. lingulata interdum elongato-lanceolata obtusa mucronata v. breviter acuta basin versus \pm longe sensimque attenuata haud petiolata (superiora brevius attenuata sessilia), integerrima v. inconspicue subdenticulata, viridia, utrimque pilis sericeis crispis albis basi plumosis apice flagellatis 2—3 mm longis dense intertexto- et villosolana, in nervo dorsali praecipue basin versus (ut etiam caulis inter folia) densissime villosolana-pellita (pilis ad 6 mm longis), sursum abrupte decrescentia remota multo minora supra glabriora v. glabra et in bracteis ciliatas v. omnino glabras trans-euntia. Inflorescentia laxa paniculata v. altefurcata, aeladium 2—15 cm longum, rami primarii 1—7 remoti arcuato-erecti crassiusculi v. graciles obscuri vulgo omnino glabri, interdum pilis basi crassiusculis obscurisque v. glandulis dispersis obsiti, semper effloccosi, ordines axium 2—3 (—4), capitula (1—) 2—8 (—16). Involucrum 12—15 mm longum ventricosum obscure olivaceo-viride, squamae valde imbricatae latae lanceolatae acutae v. exteriores acutiusculae denique \pm laxae, omnino glabrae aut glandulis solitariis v. sat densis v. etiam pilis 2—3 mm longis basi crassiusculis solitariis dispersisve obiectae saepissime omnino effloccosae, siccitate subnigrae. Pedunculi \pm crassiusculi apice leviter incrassati fere semper glabri, interdum pilis parum numerosis glandulisque solitariis v. subnumerosis muniti, sed fere semper omnino effloccosi. Bracteis 4—8 squamiformes. Flores lutei, ligulae apice glabrae, stylus luteus; achaenia dilute luteo-brunnea v. dilute brunnea, 4—5 mm longa.

Hab. in Albania, Montenegro, Bosnia, Hercegovina, Dalmatia, Croatia. — Flor. Iul., Aug.

Subspecies ***gymnocephalum*** Griseb. l. c. et Wettstein, Beitr. Fl. Albaniens (1892) p. 73; *H. boreale* < *orienti* Freyn, in Bull. herb. Boiss. (1895) no. 10. Caulis ad 65 cm altus strictus rigidus inferne dense foliosus et inter folia dense villosolana superne omnino glaber obscure-viridis. Folia c. 15 magna viridia late elliptica v. oblonga acuta, inferiora petioliformia attenuata, superiora breviter angustata sessilia, primo sensim decrescentia, iam infra caulem medium abrupte in folia parva et cito in bracteis ciliatas v. nudas decrescentia. Inflorescentia altefurcata, rami primarii ad 7 remoti oblique erecti stricti crassiusculi nigro-

virides, ordines axium 3 (—4), capitula 3—8 (—16), ramalia inferiora saepe haud evoluta. Involucrum valde imbricatum nigro-viride glabrum, squamae late triangulariter-lanceolatae acutiusculae v. acutae.

Montenegro: in valle Perućicadol infra m. Kom (J. Pantocsek); Albania: ad saxa m. Ljubitrn 2000 m (Doerfler), supra Selce, distr. Klementi (A. Baldacci, It. Alb. VIII no. 65) et infra Selce et Krstac (id., no. 65^{bis}), in herbidis et saxosis Maja Kostića et Linerzit versus distr. Klementi (Bald., It. Alb. VII no. 235), in rupestr. alpinis supra Sirokar, distr. Kuči Bald., It. Alb. VI no. 229); Bosnia: Treskavića planina distr. Sarajevo (Fiala), in cacumine m. Trebević pr. Sarajevo (Fiala).

Variat: $\alphagenuinum Zahn. Involucra et caulomata omnino effloccosa.$

a) **verum** Zahn. Involucra et caulomata etiam pilosa eglandulosa. — Supra Selce.

b) **subglandulosum** Zahn. Involucrum glandulis minutis \pm dispersis obsitum. — Maja Kostića.

c) **parcepilosum** Zahn. Involucrum pilis glandulisque sparsis munitum, pedunculi consimiles. — Treskavića planina.

$\betafloccisquamum Zahn. Involucrum nigro-viride, floccis mediocriter numerosis adpersum, sparsim glandulosum. Pedunculi effloccosi. — Infra Selce et Krstac.$

Cum *H. boreali* nihil habet commune, ideo formula Freynii valde inepta; sed multis formis intermediis in subspeciem proximam transiens.

Subspecies **orien**i A. Kerner, Oesterr. bot. Zeitschr. (1874) p. 169. Caulis 10—30 (—40) cm altus strictus infra medium dense foliosus et densissime villosopellitus, superne scapiformis omnino glaber v. rarius sparsim pilosus, semper effloccosus. Folia \pm numerosa in basi caulis conferta v. subremota sat magna oblongo-lanceolata v. lanceolata elongata saepe lingulata subobtusata v. acuta mucronata basin versus longe sensimque attenuata, superiora basi rotundata v. angustata sessilia abrupte decrescentia et bracteiformia. Inflorescentia altefurcata, rami primarii 0—3 valde remoti, acladium ad 12 cm longum (interdum ad $\frac{2}{3}$ totius caulis exhibens), capitula 1—3 (—7). Involucrum (10—) 12—14 mm longum ventricosum nigro-viride, vulgo epilosum et glandulis sparsis v. subnumerosis obtectum, semper effloccosum. Caulomata consimilia. Squamae latae lanceolatae obtusiusculae v. acutiusculae immarginatae denique \pm laxae. Achaenia iuniora brunnea matura dilute luteo-brunnea.

Hercegovina: Mostar: Velež planina (G. Beck), pr. Klenci (Jančen), in saxosis m. Porim planina prope castellum Ruište 14—1600 m (Vandas), Maglić planina (G. Beck), Plaša planina (Fiala); Trebinje: in saxosis calc. pr. Milanvo odsjek 1500 m (Vandas), in declivitatibus saxosis m. Plaša et in m. Gnila greda supra vallem Dobri do 14—1500 m (id.), Pesu brdo supra Grabovica et in m. Vuči Zub pr. Orjen 1500 m et ad Orienska lokva ad viam Crkvicensem 1500 m (Vandas); in m. Hum Orehovski (G. Beck); Dalmatia australis: In m. Orjen 1800 m et Lovćen (Pichler; loc. class.); Velebit: in m. Stirovać (Badany) pr. Medak (de Degen).

Variat: 1) **normale** Zahn. Involucrum et pedunculi \pm glandulosa epilosa. — Plaša planina, Gnila greda, Hum, Orjen, Velebit etc.

2) **subpilosum** Zahn. Involucrum et saepe pedunculi praeter glandulas pilis solitariis v. dispersis obsita. — Velež planina; Treskavića planina Bosniae (Fiala).

3) nudum Zahn. Involucrum et pedunculi sine indumento v. squamae dorso glandulis minutissimis sparsis inconspicuis obsitae. — Maglić planina (G. Beck).

Tab. 89. *H. gymnocephalum* Griseb. ssp. *orienti* A. Kerner (e m. Stirovae v. Badany supra Medak, leg. de Degen). 1. Margo ligularum. 2. Squama exterior. 3. Squama interior. 4. Pedunculus sub involucrio. 5. Pilus marginis foliorum (20:1).

57. Hieracium pannosum Boiss., Diagn. ser. I. 3 (1844) p. 32: Fl. Orient. III (1875) p. 869; N. P., Monogr. II (1886—1889) p. 286.

Peninsula Balcanica; Asia Minor.

Dispositio gregum:

- a. *Pannosum* Zahn. Caulis humilis haud plus 40 cm altus, inferne foliis magnis dense foliatus, saepissime supra folia magna fere sine transitu bracteis nonnullis paucis obsitus et (saepe iam a basi) in ramos elongatos dissolutus. — Sp. *pannosum* Boiss., *Friwaldii* Rechb. f., *mokragorae* N. P., *parnassi* Fr.
- b. *Bornmuelleri* Zahn. Caulis elatus (15—) 40–60 cm altus, foliis sat magnis subremotis sensim decrescentibus praeditus, apice longe ramosus. — Ssp. *Bornmuelleri* Freyn.

Subspecies **Bornmuelleri** Freyn, Oesterr. bot. Zeitschr. (1891) p. 54; Bull. herb. Boiss. (1895) no. 10. Caulis (15—) 40–60 cm altus crassiusculus subflexuosus subanguloso-striatus, apicem versus floccosus, eglandulosus, ubique et praecipue in parte foliata pilis 5–7 mm longis breviter ramosis usque ad apicem denticulatis albis basi rigidiusculis apice crispulis densissime villosus, aphyllopodus. Folia caulina 10–25 subremota v. in exemplaribus humilioribus sat dense conferta, infima florendi tempore emarcida, reliqua sessilia sensim decrescentia, inferiora oblongo- v. elliptico-lanceolata supra medium latissima acutiuscula v. acuta mucronata rarius subobtusata, basin versus longius attenuata, 35 mm lata quater longiora, remote leviterque sinuato-denticulata, dentibus glanduliformibus, media oblonga basin versus brevius subattenuata, superiora ± elliptica breviter acuta basi ± rotundata interdum subdentata, in bracteas foliaceas decrescentia, omnia ± papyracea viridia utrinque et praecipue subtus dense pilosa, in nervo dorsali margineque dense villosa, pilis subrigidiusculis subcrispis basi breviter dentatis usque ad apicem denticulatis. Inflorescentia furcata saepe ± indeterminata, acladium ad 15 cm longum, rami primarii 1–5 (v. complures, sed haud evoluti) crassiusculi erecti subflexuosi elongati, inferne subfoliosi apice bracteati. inferiores arcuato-erecti foliosi 1–3 cephalii, superiores monocephali, capitula (1—) 2–5 (—10). Involucrum ad 15 (—18) mm longum crasse ovatum denique late ventricosum, squamae sublatiusculae acuminatae acutiusculae, dorso obscure in margine pallide virides, apice saepissime obscurae, omnes pilis denticulatis dilutis basi rigidiusculis 2–3 mm longis dense crispo-villosae effloccosae, sed glandulis minutis luteolis mediocriter numerosis obsitae, exteriores angustiores. Pedunculi apice incrassati et glandulis dispersis obsiti, ubique subcanotomentosi et pilis ad 7 mm longis superne mediocriter numerosis inferne sat densis patentibus praediti. Bracteae 3–4 subremotae lineares sat dense pilosae. Flores intense flavi, ligulae apice glabrae, stylus initio concolor denique fuscescens, achaenia 4,25 mm longa denique dilute brunnea.

Habitat in *Asia Minore* p. e. in Paphlagonia, Tossia: in pinetis inter Schakirla et Jokariki-Dikmen (Sintenis, exs. 4667 anno 1892); Galatia: Amasia (Bornmueller, exs. 1446 anno 1889); Cappadocia: Ak-Dagh 19–2100 m (Bornmueller anno 1889); Armenia Turcica: Baschtasch ad Euphratem 1650 m (Sintenis, exs. 2919^b anno 1890). — Flor. Iul., Aug.

Nullo modo propria species, ut cl. Freyn l. c. docet, sed sine dubio subspeciebus *H. pannosi* adscribenda. Comparationis causa plantam Freynianam hoc loco depingimus.

Tab. 90. *Hieracium pannosum* Boiss. ssp. *Bornmuelleri* Freyn (planta in horto Oenipontano e seminibus cl. Bornmuelleri educata; leg. J. Murr aestate 1906). 1. Dentes ligularum. 2. Squama. 3. Pilus squamarum. 4. Pedunculus sub involucrio. 5. Pilus caulis.

Species intermediae.

58. Hieracium Guentheri Beckii Zahn = **gymnocephalum—villosum** Zahn.

Phyllopodum v. hypophyllopodum. Caulis 15—30 cm altus flexuosus gracilis, inferne viridis v. saepe violaceus, supra medium nigro-viridis (more *H. gymnocephali*), foliis sensim decrescentibus v. in exemplaribus minoribus basin versus \pm approximatis superne abrupte decrescentibus obsitis, ubique sat dense v. basin versus dense pilosus. Folia radicalia florendi tempore 1—2 evoluta v. iam emarcida, inferius interdum subspathulatum calvenscens; caulina 4—10 sublutescenti-viridia glaucescentia sat magna remote leviterque subsinuato-denticulata subundulata late lanceolata v. lanceolata acutiuscula, inferiora basin versus sensim angustata ad 11:3 cm longa, media paulo angustata basi rotundata-subamplexicaulia, superiora oblongo-v. elliptico-lanceolata multo breviora basi paulo angustata \pm amplexicaulia, in bracteis lineari-lanceolatas decrescentia; omnia utrimque densissime pilosa, in nervo mediano subtus supraque subpellita, sed color foliorum bene translucens. Pili subsericei breviter dentati apice longe flagellati, 3—6 mm longi, apicem caulis versus rigidiores v. subsetacei basi crassati obscuri tantum denticulati. Inflorescentia monocephala v. \pm furcata, acladium 3—6 cm — $\frac{2}{3}$ totius caulis longum, rami primarii 1 (—2) monocephali, capitula, 1—2 (—3). Involucrum 12—14 mm longum crasse ventricosum-globosum, squamae latae lanceolatae acuminatae acutae (haud acutissimae) obscurae olivaceo-marginatae, pilis 3—4 mm longis rigidiusculis flexuosis tantum denticulatis et glandulis dispersis minutis obsitae, *effloccosae*. *Pedunculi glandulis dispersis minutis* et pilis subnumerosis 3—5 mm longis obsiti *omnino effloccosi v. apice tantum* sparsissime floccosi. Flores lutei, ligulae apice glabrae, stylus luteus, achenia 4—4,5 mm longa brunnea.

Albania, Bosnia. — Flor. Iul., Aug.

Subspecies **eriodermum** Zahn, in sched. herb. mus. Sarajevensis (1903). Phyllopodum v. hypophyllopodum. Folia caulina c. 8—10 sursum saepe cito decrescentia. Acladium 3—6 cm longum, capitula 1—2 (—3).

In rupestribus alpinis supra Miočev-dô ad Rikavac, distr. Kuči Albaniae (A. Baldacc, It. Alb. VI 1898 no. 36).

Subspecies **Guentheri Beckii** Zahn. Hypophyllopodum. Folia caulina 4—6 sensim decrescentia. Acladium $\frac{1}{3}$ — $\frac{2}{3}$ totius caulis, capitula 1 (—2). Involucrum mediocriter tenuiterque glandulosum.

In m. Volujac planina Bosniae (G. Beck).

Tab. 91, Fig. A. 1—3. *H. Guentheri Beckii* ssp. *Guentheri Beckii* Zahn (planta Beckiana!). 1. Squama. 2. Pedunculus sub involucrio. 3. Pilus foliorum.

59. Hieracium Scheppigianum Freyn, Bull. herb. Boiss. (1895) no. 10 = **gymnocephalum—scorzonerifolium** Zahn; *H. Orieni* < *scorzonerifolium* Freyn l. c.

Bosnia, Croatia, Hercegovina, Albania.

Subspecies **Scheppigianum** Freyn l. c. Habitus ut in *H. scorzonifolio*. Caulis 20—40 cm altus gracilis v. crassiusculus subflexuosus substriatus erectus phyllopodus, superne epilosus effloccosus eglandulosus, inferne subpilosus violaceus. Folia haud numerosa glauca rigidiuscula, rosularia oblonga spathulata, caulina 2—4 sensim decrescentia, inferiora late lanceolata basin versus longe attenuata acuta, superiora lanceolata basin versus subattenuata v. basi rotundata sessilia, omnia integerrima v. remote denticulata, utrimque disperse pilosa, in margine et praecipue in nervo dorsali pilis numerosioribus obsita vix villosa, pili praecipue basin versus distincte subdentati, 3—5 mm longi. Inflorescentia profunde v. altefurcata 1—5 cephalae; acladium $\frac{1}{6}$ — $\frac{1}{2}$ totius caulis. Involucrum c. 12 mm longum ventricosum ovatum; squamae latiusculae lanceolatae, exteriores obtusae obscurae v. subnigrae fere immarginatae, interiores dilutiores acutiusculae v. acutae \pm late diluteque marginatae, omnes eglandulosae fere epilosae v. pilis brevibus subrigidis solitariis munitae, effloccosae v. floccis sparsis adspersae. Pedunculi epilosus eglandulosus, apice tantum subfloccosus et leviter incrassatus. Bractae 3—4 lineares, superiores squamiformes. Flores intense flavi, ligulae apice glabrae stylus luteus denique fuscescens; achaeia 3,5 mm longa dilute brunnea.

Hab. Hercegovina: In m. Vuči Zub (Vandas); in m. Prasa supra vallem Dobri Do 1400 m (id.).

Subspecies **plišivicae** Deg. et Zahn, apud Zahn, in Mag. bot. lap. (1906) p. 70; *H. flexuosum*—*orieni* Zahn l. c. Habitus ut in *H. subspecioso* ssp. *subspecioso* N. P. Caulis 15—25 cm altus gracilis, interdum crassiusculus, subflexuosus substriatus erectus, phyllopodus, subpilosus effloccosus eglandulosus, basin versus densius pilosus (pilis 3—5 mm l.) et saepe \pm violaceus. Folia glauca rigidiuscula, rosularia sat numerosa lanceolata acutiuscula v. acuta mucronata, basin versus longe attenuata, interdum fere subpetiolata, remote denticulata, utrimque pilis minute denticulatis subpilosa, in margine nervoque dorsali pilis rigidiusculis 3—5 mm longis numerosioribus obsita, in margine basin versus saepissime glandulis minutis solitariis praedita. Folia caulina 2—5 saepissime abrupte decrescentia lanceolata acuta radicalibus similia, summa linearia. Inflorescentia alte v. profunde furcata, fere semper (1—) 2 cephalae; acladium $\frac{1}{5}$ — $\frac{3}{4}$ totius caulis. Involucrum 10—12,5 mm longum late ovatum denique depressum; squamae imbricatae basi latiores, lanceolatae, exteriores obtusiusculae dorso nigro-virides, interiores acutae margine dilute virides, omnes breviter obscureque subpilosae (1 mm) breviter subglandulosae et praecipue basin versus mediocriter floccosae. Pedunculi apice incrassati sub involucrio tantum dense floccosi v. leviter cani, inferne cito effloccosi, ubique disperse obscureque pilosi (1 mm) et glandulis minutis subsparis obsiti. Bractae 3—4, inferiores lineares subfoliaceae, superiores sub involucrio confertae angustiores quam squamae. Flores saturate lutei, ligulae apice glabrae; stylus luteus leviter brunnescens; achaeia dilute brunnea.

Hab. in Croatia: in rupestribus calc. m. „Plišivica“ prope Korenicam 1600 m (A. de Degen, 12. 8. 1905) inter *H. scorzonifolium* ssp. *flexuosum* W. Kit. et *H. gymnocephalum* Griseb. ssp. *orieni* A. Kerner.

Tab. 91, Fig. B. 4—5. *H. Scheppigianum* Freyn ssp. *plišivicae* Deg. et Zahn (planta Degeniana). 4. Squama. 5. Pedunculus sub involucrio.

60. Hieracium Burnati A.-T., in Burnat et Gremli, Catal. Hieracium Alpes maritimes (1883) p. 57; Hierac. Alp. franç. (1888) p. 24; *H. tomentellum* N. P., Monogr. II (1886—1889

p. 79; = **lanatum** < **glaucum** Zahn, in Hierac. d. Schweiz (1906) p. 335; *glaucum-tomentosum* N. P. l. c.

Caulis 25—35 (cult. ad 45) cm altus gracilis, saepe subfractiflexus, striatus, saepissime usque ad basin ramosus, phyllopodus. Folia rosularia ad 10 evoluta v. minus numerosa sat magna lanceolata, basin versus sensim attenuata vix petiolata, acuta, remote acutidentata, glaucescentia tenuia; caulina c. 3—5, inferiora lanceolata sessilia, superiora cito decrescentia anguste lanceolata interdum fere integerrima. Inflorescentia furcata subsquarrosa (2—) 6—12 cephalae; acladium 30—90 mm longum, rami primarii (1—) 2—5 valde remoti oblique erecti graciles, apice haud incrassati, ordines axium 3. Involucrum 12—14 mm longum globosum; squamae latiusculae acutae, interiores apice obtusiusculae, obscurae late diluteque marginatae. Bractee in acladio 2—3 subulatae 5 mm et longiores. Pili in tota planta diluti sericei, in involucrio densi, 2 mm, in caulomatibus superne (1—1,5 mm) et inferne (2—3 mm) sat densi, in medio minus numerosi, in foliis supra sparsi v. subnumerosi, in margine subtusque sat numerosi, 1 mm, in nervo dorsali numerosi, 3—4 mm, distincte basin versus longius denticulati. Glandulae nullae v. in squamis et in apicibus pedunculorum valde solitariae. Flocci in squamarum marginibus densi, pedunculi superne dense floccosi v. subfloccosi, in caulomatibus fere nulli v. caulis basin versus dispersi, folia in nervo dorsali tantum disperse floccosa. Flores lutei, stylus initio luteus, denique obscurus, ligulae apice glabrae; achaeia atra, 3,5 mm longa.

Hab. Pedemontium: Prope Limone (Naegeli!), Bagni di Vinadio (Burnati!) et in valle Cogne pr. Aosta (Naegeli).

Exsiccata: Hieracia Naegeliana no. 343.

Tab. 92. *H. Burnati* A.-T. (planta Burnati). 1. Squama. 2. Pedunculus sub involucrio. 3. Pilus caulomatum.

61. Hieracium eriophyllum Willd., Hort. Berol. suppl. (1813) p. 54 et herb.; Fries, Epicr. (1862) p. 64 (sub *villosum*); Arvet-Touv., Hier. Alp. franç. (1888) p. 27; N. P., Monogr. II (1886—1889) p. 298; nec Schl. herb.; *H. Pamphili* β *eriophyllum* A.-T., in Wilczek, Notes Hierac., Bull. Soc. Murith. XXXI (1902) p. 107; = **lanatum—villosum** Reuter, Cat. hort. Genev., apud Fries, Epicr. p. 64.

Helvetia?, Delphinatus, Pedemontium.

Subspecies **albatum** N. P., Monogr. II (1886—1889) p. 299. Caulis 30—40 cm altus suberectus crassiusculus striatus subflexuosus superne ramosus. Folia in caulis basi florendi tempore saepissime emarcida, sat magna oblonga v. elliptica breviter petiolata acuta fere integerrima v. remote et inconspicue denticulata, v. interdum acute subdentata, reliqua ut in caulinis; caulina 5—6 sat magna remota sensim in bracteas acladii decrescentia, inferiora oblonga basin versus angustata, media ovata basi rotundata, summa e basi late cordata breviter acuminata, omnia rigidiuscula dilute viridia indumento denso albida. Inflorescentia altefurcata indeterminata; acladium ($1/10$ —) $1/5$ — $1/3$ totius caulis; rami primarii (1—) 2 v. complures remoti crassi oblique patentes saepissime subflexuosi, ordines axium 2 (—3), capitula 3—6. Involucrum 18—20 mm longum, initio crasse ovatum denique depressum ventricosoglobosum; squamae sub indumento fere occultae, lineares acutissimae, exteriores latae sublaevae, interiores angustiores sub tomento virides. Pili distincte plumosi, in tota planta densissimi, pellem sericeam densam in involucriis caulomatibusque ad 7 mm longam formantes. Glandulae nullae.

Flocci in involucri foliisque nulli, caulomata superne albotomentosa, inferne sensim minus floccosa. Flores dilute lutei, dentes ligularum longe ciliati; stylus concolor; achaenia brunneo-atra, 4,7 mm longa, ex parte sterilia.

Variat: α) **genuinum** N. P. Ut supra. — Pedemontium: In montibus pr. Limone 15—2000 m (Naegeli, Bicknell!).

β) **leucomallum** N. P. Involucrum minus, folia caulina minus numerosa subundulato-subdentata, indumentum densius et longius. — Ibidem (Naegeli).

Tab. 93. *H. eriophyllum* Willd. ssp. *albatum* N. P. (pr. Limone leg. Cl. Bicknell).

1. Dentes ligularum. 2. Squama exterior. 3. Squama interior. 4. Pedunculus sub involucri. 5. Pilus squamarum. 6. Portio amplificata ex pilo squamarum.

62. Hieracium Morisianum Reichb. fil., Icon. Comp. tab. 138; Fries, Epicr. p. 60; A.-T., Hier. Alp. franç. p. 26 et in Wilczek, Notes Hierac., Bull. Soc. Murith. fasc. XXXI (1902) p. 106 p. p.; *H. chloropsis* N. P., Monogr. II (1886—1889) p. 302; nec. Grenier Godr.; = **lanatum—scorzonerifolium** Zahn; non *tomentosum—scorzonerifolium* N. P. l. c. — Huc pertinent *H. Pamphili* A.-T., Monogr. (1873) p. 23; Hier. Alp. franç. p. 26; Burnat et Gremli, Catal. Hierac. Alp. marit. (1883) p. 12 et 60 = *H. villosiceps* sp. *Pamphili* N. P. II p. 107; *H. Pamphili* β) *subtomentosum* Burn. et Gremli l. c. et *H. Bellardi* β) *subtomentosum* A.-T., in Wilczek l. c.

Delphinatus, Pedemontium.

Subspecies **Pamphili** A.-T. l. c. Caulis 30—40 cm altus crassiusculus subflexuosus striatus phyllopodus. Folia rosularia pauca oblonga v. oblongo-lanceolata, basin versus angustata haud distincte petiolata acuta, interdum subundulata et remote leviterque sinuato-denticulata v. subdentata; caulina 3—4 sat magna sensim decrescentia oblonga, basin versus subattenuata sessilia v. basi rotundata, omnia dilute viridia subglaucescentia subrigida. Inflorescentia furcata indeterminata 2—4 cephalae; accladium (3,5—) 7—10 cm longum; rami primarii 1—3 valde remoti crassiusculi, ordines axium 2. Involucrum 15—17 mm longum ventricosum-globosum: squamae lineares longe acuminatae acutissimae, exteriores sublaxae. Bractae 2 subfoliaceae. Pili in involucrio densissimi albi 4 mm longi, in caulomatibus densi basin versus etiam densiores 6—8 mm longi, in foliis superne mediocriter numerosi v. sat densi, subtus praecipue in nervo mediano densi sericei curvati ad 6 mm longi, distincte denticulati v. basin versus subdentati, in plantae parte superiore basi haud obscuri. Glandulae nullae, apicem squamarum interiorum versus tantum solitariae minutissimae. Flocci involucri fere nulli, in foliis nulli, caulomata superne canotomentosa, inferne cito subeffloccosa. Flores dilute lutei, ligulae apice glabrae v. parum breviterque ciliatae; stylus luteus; achaenia castaneo-brunnea, 4,5—4,7 mm longa.

Hab. Pedemontium: V. Grande et V. Sabbione, V. Grande verus Col de l'Arpiolla (Burnat), Col di Tenda (Bicknell); Delphinatus: Lautaret, Galibier, Vallon des Roches-Noires, in m. Chamoux, la Salette, versus le Valbonnais (A.-T.).

Exsiccata: Soc. Dauph. no. 479.

Tab. 94. *H. Morisianum* Reichb. fil. ssp. *Pamphili* A.-T. (e iugo Lautaret 2100 m, leg. A. et K. Touton). 1. Margo ligularum. 2. Squama. 3. Basis pili squamarum. 4. Pedunculus sub involucrio. 5. Pars inferior pili caulini.

63. Hieracium chloropsis Grenier Godr., Fl. Fr. II (1850) p. 368; A.-T., Hierac. Alp. franç. (1888) p. 26 et in Wilczek, Notes Hierac., Bull. Soc. Murith. XXXI (1902) p. 100 p. p.; nec N. P., Monogr. II (1886—1889) p. 302; = **lanatum—subspeciosum** Zahn, Hier. d. Schw. (1906) p. 335; *H. tomentosum—scorzonerifolium* N. P. l. c. p. 302 p. p.

Caulis phyllopodus v. hypophyllopodus 1—5 (—7) dm altus erectus v. subascendens gracilis v. crassiusculus saepissime flexuosus intense striatus apice ramosus mono- v. saepius oligocephalus v. usque ad basin ramosus pleiocephalus. Folia rosularia pauca subpetiolata v. florendi tempore emarcida caulinis similia, caulina (2—) 3—10 (—12), infima ± (saepe in speciem rosulae) conferta, reliqua ± remota per totum caulem aequaliter distributa sensim decrescentia, inferiora ± oblonga v. oblongo-lanceolata interdum fere ovata, basin versus ± attenuata sessilia, acuta, media et superiora e basi ovata subacuminata, omnia rigidiuscula ± glauca, cuspidato-denticulata v. subserrata, rarius ± dentata, haud raro ± integerrima. Inflorescentia alte furcata v. saepius laxe paniculata, acladium 1—3 (—5) cm longum, rami primarii (0—) 2—7, omnes remoti graciles oblique erecti paulo arcuati, inferiores magis patentibus foliis parvis obsiti, ordines axium 2—3, capitula (1—) 3—18. Involucrum 12—15 mm longum ovatum denique globosum; squamae latiusculae lineares acutae v. acutiusculae v. obtusiusculae, subnigrae, interiores late viridi-marginatae, exteriores tantum laxae. Pili subplumosi diluti molles, in involucrio ± numerosi 2—3 mm longi, in caulomatibus subnumerosi 3—5 mm longi, in foliis superne subnumerosi aut fere nulli 2—4 mm longi, in foliis caulinis saepe utrumque nulli, in parte aversa foliorum semper numerosiores. Glandulae ubique fere nullae aut in involucrio subnumerosae minutae saepe subluteae, in pedunculis superne ± dispersae, in reliquis partibus plantae semper nullae. Flocci involucri subnulli v. saepissime praecipue in squamarum marginibus ± densi, pedunculi dense floccosi subalbotomentosi, caulomata inferne cito minus floccosa v. floccis usque ad basin descendentes munita. Flores lutei lingulati, dentes ligularum papilloso v. breviter subciliati. Stylus subluteus v. subobscurus; achaenia obscure brunnea v. subatra c. 4—4,4 mm longa.

Hab. in alpinis Pedemontii et Delphinatus. — Flor. Iul. Aug.

1. Caulis hypophyllopodus elatus 4—5 (—7) dm altus ad 12 foliatus (*lanatum-glaucopsis*).

Subspecies **corruscans** Fries, Epicr. (1862) p. 60, nec Symb. (1848) p. 62; *H. spectabile* Fr. mscr., Epicr. l. c.; *H. chloropsis* v. ? *spectabile* A.-T., Hier. Alp. franç. (1888) p. 26; *H. Muteli* A.-T. γ) *subcorruscans* et δ) *giganteum* A.-T., in Wilczek, Notes Hierac., in Bull. Soc. Murith. XXXI (1902) p. 106; *H. lanatum—glaucopsis* Zahn, Hier. d. Schw. (1906) p. 335. Folia caulina ± elongata oblongo-lanceolata v. lanceolata, basin versus ± attenuata sessilia, denticulata v. fere integerrima. Squamae exteriores ± obtusiusculae.

1) *spectabile* Fries l. c. Caulis crassus fistulosus facile comprimendus, plerumque ex omni ala ramosus, ramis elongatis foliosis, inferioribus pleiocephalis; caulis basis saepe rosulas valde spectabiles emittens. — In m. Viso „sous les chalets de Ruines“ (Reuter).

2) *subcorruscans* A.-T. l. c. Caulis supra medium ramosus, foliis lanceolatis v. superioribus elliptico-lanceolatis. — Col du Lautaret, la Grave, Taillefer, la Salette etc. (A.-T.).

3) *giganteum* A.-T. l. c. Caulis 5—7 dm altus, foliis ovato-lanceolatis v. ovatis. — Col du Lautaret, an Pied-du-Col etc. (A.-T.).

Exsiccata: Hieraciotheca Gallica no. 128 (*subcorruscans*).

Tab. 95. *H. chloropsis* Gren. sp. *corruscans* 2) *subcorruscans* A.-T. (e iugo Lautaret, leg. A. et K. Touton). 1. Dentes ligularum. 2. Squama. 3. Pili squamarum basis. 4. Pedunculus sub involucrio. 5. Pilus stellatus pedunculorum.

1.* Caulis saepissime phyllopodus minus elatus 1—5 dm altus minus foliatus (*lanatum—chondrilloides*).

2. Folia ± dentata, saepissime purpureo-brunneo-maculata; caulis saepius hypophyllopodus.

Subspecies **Serresianum** A.-T., in Wilczek, Notes Hierac., in Bull. Soc. Murith. XXXI (1902) p. 100. Caulis 10—35 cm altus ad 10 foliatus. Folia lanceolata v. oblongo-lanceolata basin versus attenuata, infima ± petiolata, omnia pariter ac reliquae partes plantae sat dense pilosa, pilis distincte subplumosis. Caulomata superne dense floccosa.

Hab. Delphinatus: Gap, Briançon, Lautaret (A.-T.).

Planta inter formas maculatas *H. chondrilloidis* et *H. lanatum* intermedia, sed priori magis affinis.

Tab. 96, Fig. B. 5—8. *H. chloropsis* Gren. ssp. *Serresianum* A.-T. (e iugo Lautaret, leg. A. Faure). 5. Squama. 6. Pedunculus sub involucrio. 7. Pilus squamarum. 8. Pili foliorum basis.

2*. Folia denticulata v. integerrima haud maculata, supra infima conferta haud plures quam 2—4 remota evoluta.

3. Squamae pedunculique disperse glandulosa, folia sat magna.

Subspecies **chloropsiforme** A.-T.; *H. Muteli* β) *chloropsiforme* A.-T. Hieracioth. Gallica no. 564 et in Wilcz. l. c. p. 106. Caulis hypophyllopodus v. interdum phyllopodus. Folia oblongo-lanceolata v. ovato-lanceolata. Involucrium 12—14 mm longum.

Hab. in Dephinatu: Lautaret, le Lauzet, la Grave, Besse, les Grandes-Rousses; Taillefer, le Valbonnais au Désert, la Salette; in m. Seneppe pr. La Mure; in valle fl. Guil ad pedem m. Viso; in m. Cenis, La Maurienne etc. (A.-T.).

H. glaucopsi simile, sed differt pilis subplumosis in tota planta magis evolutis etc.

Exsiccata: K. H. Zahn, Hieraciotheca Europaea no. 178.

Tab. 96, Fig. A. 1—4. *H. chloropsis* Gren. Godr. ssp. *chloropsiforme* A.-T. (e iugo Lautaret, leg. A. et K. Touton). 1. Squama. 2. Pili squamarum basis. 3. Pedunculus sub involucrio. 4. Pilus stellatus.

3*. Glandulae squamarum pedunculorumque subnullae; folia sat parva.

Subspecies **Muteli** A.-T., Spicileg. (1881) p. 25; Hier. Alp. franç. p. 25; in Wilcz. l. c. p. 106; *H. lanatum—chondrilloides* Zahn, Hier. d. Schw. (1906) p. 335. Phyllopodum glabrescens v. subpilosum. Folia lanceolata v. oblongo-lanceolata, caulina 2—5 saepe cito decrescentia et interdum fere omnia reducta bracteiformia. Caulis alte furcatus saepissime usque ad basin ramosus, ramis oblique erectis saepe flexuosis. Involucrium 12 mm tantum longum ovatum.

Hab. Pedemontium: Limone, V. Sabbione (Burnat!); Delphinatus: Col du Lautaret, Taillefer, Lans, Bourg d'Oisans, les Grandes-Rousses; in m. Viso: la Traversette; Gap; la Maurienne: la Madeleine inter Bessans et Lans-le-Villard (A.-T.).

Huc pertinet etiam *H. Monnieri* A.-T., in Wilczek l. c. p. 107; *H. Muteli* v. *canescens*

A.-T., Hieracioth. Gallica 335 et 566, quod transitum inter *H. Muteli* et *H. eriophyllum* sistere videtur.

64. Hieracium pellitum Fries, Epicr. (1862) p. 79 et in herb. Reuter; Burnat et Gremli, Hierac. Alp. marit. (1883) p. 35 et 74; Zahn, in Koch Synops. (1901) p. 1827; in Schinz et Kell., Fl. d. Schweiz (1905) p. 306; Zahn, Hier. d. Schweiz (1906) p. 337; *H. colophyllum* N. P., Monogr. II (1886—1889) p. 309; *H. pseudolanatum* A.-T., Ess. (1871) p. 46; Monogr. Hierac. (1873) p. 34; *H. lanato-murorum* A.-T. l. c.; *H. tomentosum-silvaticum* N. P. II p. 309; = **lanatum—silvaticum** Zahn l. c.

Helvetia, Sabaudia, Delphinatus, Pedemontium, in Aprutiis.

1. Folia caulina compluria subsensim decrescentia (habitus intermedius).

Subspecies **pseudotomentosum** N. P., Monogr. II p. 310; *H. lanatum* A.-T. et auct. p. p; *H. sublanatum* A.-T., Elenchus Hierac. nov., in Ann. jard. Genève (1897) p. 100; nec F. Sch., Herb. norm. n. s. 2027; *H. phlomidifolium* A.-T. p. p., Bull. Soc. bot. France XLI (1894) p. 358, apud A.-T., Elench. l. c. — *H. lanato* magis affine. Caulis 20—30 cm altus ascendens crassiusculus subflexuosus striatus phyllopodus. Folia rosularia florendi tempore 1—2 (reliqua emarcida) breviter petiolata ± oblonga obtusiuscula v. acutiuscula fere integerrima; caulina 2—4 ± elliptica v. elliptico-lanceolata sessilia, omnia viridia crassiuscula tomentosa subdentata v. denticulata. Inflorescentia alte furcata ± indeterminata; acladium 1—4 cm longum; rami primarii 1—3 valde remoti crassiusculi; ordines axium 2 (—3), capitula 2—3 (—5). Involucrum 11—12 mm longum crasse ovatum denique globosum; squamae adpressae lineares angustae acutissimae obscurae, in indumento fere omnino occultae. Pili plumosi albi molles ubique tomentum densum 1,5—2 mm in caulomatibus ad 3 mm longum formantes. Glandulae nullae. Flocci in caulomatibus superne densissimi, inferne sensim deminuti, in reliquis partibus plantae nulli. Flores dilute lutei. Ligulae apice brevissime ciliatae, fere papilloae; stylus concolor; achaenia subatra 3,6 mm longa.

Hab. *Helvetia*: Prope Binn (Besse), Varone-Leuk (Fauconnet), pl. locis pr. Zermatt (Lagger), Saas-Fée (Gysperger), Saxon (Besse), St. Leonhard, Ardon, Chandolin (Wolf), Col du Lens et du Frou (Besse); in abruptibus „Wandfluh“ pr. Reidenbach in valle Simmental (Maurer); in saxosis „à la Côte Lambercier“ inter Travers et Résières in m. Jura pr. Neuenburg (Lerch). *Sabaudia*: Col du Reiret supra Bonneville (Chenevard), Paroy d'Hyot (Briquet); Flora *Valdostana*: Valpelline 1600—1900 m (Vaccari), in valle Cogne: Epinel (Chenevard), Col de Louzon 1500 m, Lillaz (Wilczek); *Delphinatus*: Col du Lautaret (A. et K. Tout.), in m. Viso: à la Monta (A.-T.). *Pedemontium*: Valle dell' Abisso pr. Limone 17—2000 m (Naegeli), Col di Tenda (Bicknell).

Tab. 97. *H. pellitum* Fr. ssp. *pseudotomentosum* N. P. (e iugo Lautaret, leg. A. et K. Touton). 1. Dentes ligularum. 2. Squama. 3. Pedunculus sub involucri. 4. Pilus foliorum marginis.

Subspecies **Jordani** A.-T. (1885, Session Soc. avances sciences, Grenoble), Hier. Alp. franç. (1888) p. 60; Zahn, Hier. d. Schweiz (1906) p. 338; *H. Laggeri* Jord., apud Fries, Epicr. (1862) p. 79; nec Sch.-Bip.; *H. colophyllum* N. P. II p. 310. Caulis 25 ad 55 cm altus ± crassiusculus. Folia rosularia 1—4 magna pedunculata (pedunculus $\frac{1}{3}$ — $\frac{1}{2}$ laminae exhibens), ovata v. elliptica v. oblongo-lanceolata, obtusa v. breviter acuminata, basin versus grosse et saepe acute ± serrato-dentata, in reliquo margine denticulata, dentibus apice

glanduliformibus: caulina 2 (—3), infimum saepissime magnum, saepe basin versus magis grosse dentatum, superius oblongo-lanceolatum \pm longe acuminatum valde minutum (sumum anguste lanceolatum acutissimum, saepissime haud evolutum); omnia sub tomento \pm gramineo-viridia rigidiuscula laxe tomentosa. Acladium 2—11 cm longum, rami primarii 1—5 valde remoti, capitula 2—8 (—12); involucrium 13—15 mm longum, squamae obscurae, densissime pilosae sed satis conspicui, subfloccosae fere eglandulosae (glandulis minutissimis); pedunculi \pm tomentosi disperse tenuiterque glandulosi. Pili in omnibus plantae partibus plumosi 1—2 mm longi. — Inter *H. lanatum* et *sylvaticum* intermedium.

Hab. *Vallesia*: in valle Binn usque ad 1450 m: Safischmatt, Twinggen, versus m. Eggerhorn, Schatzturn, Nacken, Lauwigraben (Lagger, Chenevard, Bernoulli), inter Brig et Bérisal (Wilczek), pr. Saas-Fée (Schroeter), Sembrancher (Favrat), St.-Leonhard (Besse); *Italia boreali-occidentalis*: Macugnaga ad pedem m. Rosa (Wolf), in valle Cogne: Lillaz—Crêt (Wilczek), Chavanis (Wolf).

Variat: 1) colophyllum N. P. I. c. Tota planta densius lanata, pedunculorum glandulae tenuissimae brevesque. — In v. Binntal, in m. Simplon et pr. Sembrancher.

2) Jordani A.-T. Folia minus dense tomentosa viridia, pedunculorum glandulae mediocriter numerosae conspicuae. — In valle Binn.

3) calvescens Zahn, Hierac. d. Schweiz (1906) p. 339. Folia dense pilosa haud tomentosa, squamae disperse tenuiterque glandulosae. — In valle Binn.

Tab. 98. *H. pellitum* Fries ssp. *Jordani* A.-T. (e valle Binn, leg. Dr. Touton). 1. Squama. 2. Pedunculus sub involucrio.

1*. Folia caulina pauca v. interdum nulla, sursum cito decrescentia. Habitus ut in *H. sylvatico*.

Subspecies **pseudolanatum** A.-T., Essai (1871) p. 46; Monogr. (1873) p. 34; Hier. Alp. franç. (1888) p. 60; N. P., Monogr. II p. 312; Zahn, Hier. d. Schw. (1906) p. 339; *H. muroro—lanatum* ? A.-T., Essai classif. (1880) p. 9; *H. sublanatum* F. Schultz, Herb. norm. nov. ser. no. 2027; *H. Laggeri* Fries in sched. p. p. — Cfr. Burnat et Gremli, Hier. Alp. marit. (1883) p. 35 et 74. — Caulis 20—40 cm altus dense pilosus (2—3 mm) fere usque ad basin floccosus, saepe caules laterales evoluti v. ramus infimus e rosula enascens. Folia rosularia 4—6 haud ita magna sylvaticiformia, exteriora ovata v. elliptica, subito in petiolum sat longum angustata, saepissime obtusa mucronata, \pm serrato-dentata v. denticulata, reliqua oblonga v. lanceolata sensim in petiolum attenuata acuta, basin versus dentata apicem versus denticulata v. integerrima; omnia utrimque pilis sericeis \pm plumosis \pm curvatis 2 mm longis densissime pilosa, in parte aversa petioloque densius pellita, rigidiuscula, dilute viridia; caulina 1—2 (—3) sat parva, inferius lanceolatum utrimque acuminatum, superiora linearilanceolata v. linearia acutissima. Inflorescentia subaldefurcata, acladium $\frac{1}{6}$ — $\frac{1}{3}$ totius caulis exhibens, rami primarii 1—2 (—3) crassiusculi oblique erecti, inferiores valde elongati, ordines axium 2—3, capitula (1—) 2—4 (—7). Involucrium 10—13 mm longum crasse ovatum denique globosum, squamae acutissimae obscurae densissime pilosae (3—4 mm) parum floccosae subeglandulosae. Pedunculi subcanotomentosi sparse disperseve glandulosi. Flores saturate lutei, ligularum dentes breves glabri, stylus obscurus, achaenia obscure castaneo-brunnea 3,5 mm longa.

Hab. *Vallesia*: In valle Binn: Safischmatt (Bernoulli), Furggenalp 2000 m (Besse); *Delphinatus*: Lautaret, Pelvoux, pr. Gap: in m. Séuse, Pic de Chabrières; in valle Guil ad

pedem m. Viso; in valle Longet etc. (Arv.-Touv.) Secundum Burnat et Gremli, Cat. Hier. Alp. marit. p. 36 et 74 etiam in *Alpibus Pedemontanis*.

Exsiccata: Soc. dauphin. no. 176; Magnier, Fl. sel. no. 1483.

Tab. 99. *H. pellitum* Fr. ssp. *pseudolanatum* A.-T. (e iugo Col du Lautaret 2000 m, leg. A. Faure). 1. Margo ligularum. 2. Squama. 3. Pedunculus sub involuero. 4. Pilus marginis foliorum.

Subspecies **pellitum** Fries, Epicr. p. 79 et in herb. Reuter; *H. quercifolium* N. P., Monogr. II (1886—1889) p. 313. Caulis 20—40 cm altus crassiusculus ubique dense pilosus (2—3 mm) usque infra medium floccosus eglandulus. Folia rosularia 4—5 sat breviter petiolata, exteriora minora elliptica acutiuscula v. florendi tempore emarcida, reliqua multo maiora elongata lanceolata obscure viridia rigidiuscula in petiolum sensim angustata acuta, apicem tantum versus denticulata v. integerrima, deorsum dentata v. grosse triangulariterque serrato-dentata v. basin versus inciso-dentata, dentibus angustioribus acutioribusque saepe in petiolo descendentes; caulina 0—2 (—3) lanceolata acuta v. acutissima similiter dentata, superiora saepissime bracteiformia; omnia utrinque pilis ± densis 2—3 mm longis oblecta. Inflorescentia alte furcata, rami primarii 1—2 (—3), ordines axium 2—3, capitula (1—) 2—5 (—10). Involucrum 13—15 mm longum denique globosum; squamae longe acuminatae acutissimae obscurae (interiores in margine dilutiores), pilis semiplumosis densissimis dilutis mollibus ad 4 mm longis, floccis mediocriter numerosis glandulisque valde solitariis v. nullis obsitae. Pedunculi albido-tomentosi densissime pilosi glandulosi v. interdum glandulis dispersis muniti. Flores dilute lutei, ligulae apice breviter papillatae v. interdum breviter ciliatae, stylus subluteus; achaenia atrobrunnea 3,5—3,8 mm longa.

Variat: α) **pellitum** Fries l. c. Folia basin versus dentata haud grosse inciso-dentata. — In *Alpibus Maritimis Italiae borealis*: In m. Galero, pr. Limone, in valle Sabbione, supra Entraque; in vallecula Erberg pr. Pallanfré; inter Argentera et iugum Col de la Maddalena (Burnat et Gremli l. c.). Exemplaria Reuteriana, a cl. Friesio visa et in Epicrisi l. c. descripta, e iugo „Col de Giuriaccio pr. Limone“ orta erant qui locus sine dubio in iugo Col di Tenda situs est; sed nomen „Giuriaccio“ secundum cl. Burnat et Gremli in regione Limonensi ignotum est. Cl. Friesius locum Italicum in Hispaniam false transtulit, quo factum est, ut Willkomm et Lange, Prodr. fl. Hisp. II p. 266 *H. pellitum* speciebus florum Hispaniae annumeraverint.

Italia media: Nelle Murge della Fascia di Pettorano, *Abbruzzi*, 12. Iulii 1887 leg. M. de Sardagna!

β) **quercifolium** N. P. l. c. Folia basin versus inciso-dentata v. lacerata, dentibus saepe in petiolum descendentes. — In iugo Col di Tenda 1800 m (Naegeli), in valle Casterino di Tenda (Bicknell).

Tab. 100. *H. pellitum* Fr. ssp. *pellitum* Fr. β) *quercifolium* N. P. (leg. Bicknell). 1. Squama. 2. Pedunculus sub involuero. 3. Achaenium. 4. Pilus pappi. 5. Margo foliorum.

Sectio VIII. **Lanata** [A.-T., Essai classif. p. 8; Hier. Alp. franç. p. 58 (sub nomine *Andryaloidea Lanata*); Stirps *H. andryaloides* Fr., Symb. p. 86 p. p.; *Andryaloidea* Monnier; Koch, Syn. ed. 2; Fr., Epicr. p. 74 p. p.; Griseb., Com. p. 62; Stirps *H. tomentosum* Burn. Gremli, Hier. Alp. marit. p. 32; *Tomentosa* N. P. II p. 272]. — Caulis phyllopodus v. interdum

hypophyllopodus ± foliatus. Folia ± magna utrimque pilis crispulis distincte plumosis dense albotomentosa crassiuscula (pelle colorem viridem laminae fere omnino occultante) eglandulosa, basin caulis versus vel altius haud densius conferta (sed saepissime rosulam plurifoliam formantia). Inflorescentia furcata, capitula magna albolanata saepissime eglandulosa effloccosa, pedunculi consimiles, squamae acutissimae, stylus subluteus; alveoli margine haud ciliati. Achaenia saepissime intense atra.

Huc pertinent *H. lanatum* Vill. cum subspeciebus *lanatum* Vill., *phlomidifolium* A.-T., *Liottardi* Vill., *andryaloides* Vill. etc. et species intermediae iam depictae et descriptae: *H. Burnati* A.-T., *H. eriophyllum* Willd., *H. Morisianum* Reichb. fil., *H. chloropsis* Gr. Godr. et *H. pellitum* Fries.

Sectio IX. **Lanatella** [A.-T., Essai classif. p. 9; Hier. Alp. franç. p. 63 sub *Andryaloideis* *Lanatellis*; *Andryaloidea* Fr., Epicr. p. 74 p. p.; stirps *H. rupestre* Burnat-Grenli, Hier. Alp. marit. p. 30; *Picta* A. Peter, in Engler-Prantl, Nat. Pflanz. Fam. IV pars 5]. — Caulis phyllopodus scapiformis v. paucifolius. Folia viridia v. prasino-viridia subangusta sat parva, multo minus pilosa quam in sectione *Lanata*, supra saepissime glabra et ± brunneo-maculata, in margine et subtus subpilosa, basin versus pariter ac novella densius albopilosa, pilis distincte dentatis v. inconspicue semiplumosis. Inflorescentia furcata, capitula pauca mediocriter magna vel minora sat breviter subvillosa ± floccosa eglandulosa v. glandulis minutis solitariis praedita, pedunculi subfloccosi v. incani ± glandulosi, squamae acutiusculae v. acutissimae. Stylus luteus, ligulae glabrae, achaenia atra.

Huc pertinent *H. pictum* Schl. (et farinulentum Jord.) et *H. rupestre* All. Hic commemoro hoc Hieracium etiam in *Italia media* (in m. Argatone pr. Sulmonem leg. 6. Iulii 1887 M. de Sardagna) inventum esse.

Species intermediae:

65. Hieracium pulchellum Grenier = **pictum—lanatum**; Grenier, in Gren. Godr., Fl. Fr. II p. 367 (1850); Griseb., Comm. p. 64; Fries, Epicr. p. 78; N. P., Monogr. II p. 316; Zahn, in Koch Syn. (1901) p. 1830; Hierac. d. Schw. (1906) p. 345; non Lindbg., Hier. Scand. exs. 70 et in Bot. Notiser (1872) p. 120; *H. Liottardi* Gren. l. c. p. 366, non Vill.; *H. Liottardi* b) *pulchellum* Fr. l. c.; *H. lanatellum* A.-T., Essai (1871) p. 46; Monogr. p. 35; Hier. Alp. franç. p. 63; *H. muroro—lanatum* A.-T., Mon. l. c. *H. lanato—pictum* ? A.-T., Essai classif. p. 9; *H. toumentosum—pictum* N. P. l. c.

Caulis 10—20 (—30) cm altus ascendens saepe subflexuosus gracilis, superne ± dense floccosus mediocriterque pilosus, 1—2 mm. Folia rosularia 5—7 saepe sat magna, rigidiuscula v. mollia, dilute viridia vel glaucescentia, supra saepe ± distincte brunneo-maculata, petiolata (pedunculus $\frac{1}{3}$ — $\frac{1}{2}$ laminae exhibens), elliptica v. breviter oblonga basi truncata vel in petiolum ± attenuata, vel oblongo-lanceolata lanceolatae et utrimque attenuata, integerrima v. basi dentata v. grosse inciso-dentata subpinnatifida, in parte aversa et praecipue in margine petioloque dense pilosa, 2—3 mm, effloccosa, pilis ± plumosis; caulina nulla v. unum (—3) evolutum parvum ellipticum v. subulatum. Inflorescentia indeterminata furcata, acladium $\frac{1}{4}$ — $\frac{1}{5}$ totius caulis, rami 0—2, saepe 1—3 caules laterales evoluti, ordines axium 1—2 (—3). Capitula (1—) 2—3 (—5), involucrum 11—15 mm longum denique ± globosum, squamae ± latiusculae lineares longe acuminatae apice acutiusculae

barbulatae, dense molliterque albopilosae, 1,5—2 mm, albotomentosae v. mediocriter tantum floccosae pilosaeque, \pm eglandulosae; pedunculi eglandulosi v. glandulis brevibus solitariis praediti. Flores dilute lutei, ligulae apice sparsim breviterque ciliatae, stylus luteus, achænia atra.

Hab. in *Vallesia*, *Delphinatu*, *Pedemontio*. Flor. Maio-Iulio.

1. Glandulae ubique nullae.

Subspecies **Morthieri** (Favrat in sched.) Zahn, Hier. d. Schweiz (1906) p. 345; *H. pulchellum* N. P. II p. 316 p. p.; Zahn, in Koch Syn. I. c. et in Schinz et Kell., Fl. d. Schw. ed. 2 II (1905) p. 307. Folia rosularia \pm tenuia molliaque, \pm viridia glaucescentia, sat magna elliptica obtusa v. breviter acuta vel late ovato-lanceolata et cito acuminata, basi truncata v. breviter in petiolum attenuata, basi dentata v. grosse dentata subpinnatifida, supra glabra brunneo-maculata; caulinum 1 parvum v. nullum. Capitula in caule primario saepissime 1—2. — Formulae lanatum \times pictum respondens.

Hab. *Vallesia*: Isérable (Wolf), Saxon-Riddes-Isérable (Chen.), Ecône—Ravoire (Besse), Drônaz, Vex, Nax, in valle fl. Sionne, Bieudron, Chippis, Niouc, Fang, Visp—Stalden, Brig (Wolf), Visp—Tourtemangne (Chen.), Ganter versus Bérisal (Bernoulli).

Variat foliis immaculatis, p. e. in valle fl. Sionne (Wolf).

Tab. 101, Fig. B. 4, 5. *H. pulchellum* Gren. ssp. *Morthieri* Zahn (pr. Riddes Vallesiae, leg. M. Besse). 4. Margo foliorum. 5. Nervus dorsalis et pars aversa foliorum.

Subspecies **lanatellum** A.-T. I. c. (sine dubio *H. pulchellum* verum cl. Grenieri). Formulae lanatum—farinulentum optime respondens. Folia rosularia mediocriter magna v. sat parva, saepissime oblongo-lanceolata et semper utrinque attenuata, pleraque in petiolum longe angustata, integerrima v. dentata, saepissime \pm rigida v. crassiuscula, dilute viridia, supra maculata v. \pm immaculata.

Variat: 1) normale Zahn, Hier. d. Schweiz (1906) p. 346. Folia supra glabra. Formam immaculatam huius subvariationis *H. pulchellum* Gren. esse pro certo habeo. — *Delphinatus*: In m. Viso; in iugo Lautaret; La Maurienne; in m. Cenisio; Chalais pr. Voreppe (A.-T.). In *Alpibus Lemaniensibus*: Versant sud du Col d'Aïse (Briquet).

2) subpilosum Zahn I. c. Folia supra in nervo mediano v. in tota parte pilosa (*H. lanatellum* A.-T. p. max. p.). — *Delphinatus* (A.-T.). — In valle Cogne 1500—2300 m: Taveronaz (Chenevard), Crêt—Chavanis (Wilczek), Lillaz (Bernoulli).

3) micradenium Zahn. I. c. Pedunculi sub involucri glandulis minutissimis solitariis praediti. — In valle Cogne: Lillaz 15—1700 m (Vaccari).

Tab. 102, Fig. A. 1—3. *H. pulchellum* Gren. ssp. *lanatellum* A.-T. 2) *subpilosum* Zahn (e m. Séuse pr. Gap, leg. A. Faure). 1. Squama. 2. Pedunculus sub involucri. 3. Portio e parte superiore foliorum.

Subspecies **séusanum** A.-T., apud N. P., Monogr. II (1886—1889) p. 317; A.-T., Hier. Alp. franç. (1888) p. 65. Caulis 25—40 cm altus, superne sat dense, inferne saepe minus dense, basin versus dense pilosus, 1—3 mm, usque ad basin \pm floccosus; saepe caules laterales evoluti. Folia rosularia 2—5 petiolata, exteriora ovata v. elliptica \pm obtusa mucronata fere integerrima, reliqua elliptica v. oblongo-lanceolata \pm acuminata acuta basin versus in petiolum angustata, apicem versus fere integerrima, infra medium saepissime \pm

sinuato- et serrato-dentata, omnia \pm rigida dilute viridia \pm dense brunneo-maculata, supra mediocriter v. sat dense, in parte aversa densius pilosa, 2—3 mm, in nervo dorsali dense floccosa, interdum in tota parte aversa disperse floccosa, in nervo mediano partis superioris subfloccosa; caulina 2—3 parva, inferius lanceolatum, superiora bracteiformia. Inflorescentia altefurcata, acladium $\frac{1}{10}$ — $\frac{1}{5}$ totius caulis exhibens, rami primarii 1—3 valde remoti, ordines axium 2—3, capitula 2—5 (—8). Involucrum 11—13 mm longum denique ventricosodepressum, squamae e basi latiore longe acuminatae, in apice acutiusculae barbulatae, obscurae late diluteque marginatae dense pilosae, 1—2 mm, dense floccosae v. subincanae, eglandulosae. Pedunculi consimiles. Flores lutei, ligulae apice glabrae, stylus denique fuscescens achaenia matura atra, 3,6 mm longa.

In montibus calcareis pr. Gap: In m. Sêuse etc. (A.-T.).

Tab. 103. *H. pulchellum* Gren. ssp. *sêusanum* A.-T. (e m. Sêuse, leg. A. Faure).

1. Margo ligularum. 2. Squama. 3. Pedunculus sub involucrio. 4. Basis pilorum cum pedunculorum portione. 5. Portio e parte aversa foliorum cum nervo mediano.

2. Glandulae in pedunculis dispersae, saepe in caulem descendentes.

Huc pertinet subspecies *H. pleioscapum* Zahn [in Koch Syn. (1901) p. 1830; in Schinz et Kell., Fl. d. Schw. ed. 2 II p. 307; in Hierac. d. Schweiz p. 346; *H. Wolfii*, *Besscanum* et *lanopictum* A.-T. in sched.], foliis mollibus supra glabris v. disperse pilosis glaucescentibus fere immaculatis oblongo-lanceolatis v. oblongo-spathulatis obtusiusculis v. acutis sensim in petiolum angustatis denticulatis v. dentatis, pedunculis cano-viridibus, caulibus saepe pluribus sparsim floccosis. — Hab. in valle *Cogue*: Epinel, Lillaz, Crêt, Chavanis, Taveronaz (Wolf, Besse, Wilczek); Valsaravanche, Val Grauson: Pont de Laval (Besse, Vaccari). — Subspecies intermedia inter *H. pictum* et *H. lanatum* ssp. *phlomidifolium*.

66. Hieracium Rionii Gremli = **pulchellum**—**bifidum** Zahn; Gremli, Neue Beitr. Fl. d. Schweiz III (1883) p. 16, cum var. *H. caesii* Fr.; Zahn, in Koch Syn. (1901) p. 1828; in Schinz et Kell., Fl. d. Schw. ed. 2 II (1905) p. 307; in Hierac. d. Schw. (1906) p. 346; *H. oligocephalum* A.-T. in herb. Wolf, non in Suppl. à Monogr. (1876), non Hier. Alp. franç. (1888) p. 66; *H. pictum* \times *praecox* Wolf exs. (1892); *H. tomentosum* < *praecox* Zahn, in Koch Syn. l. c.; *H. subincisum* var. *Rionii* A.-T. in sched.

Habitus ut in *H. bifido*. Caulis 25—40 cm altus, inferne fere epilosus superne \pm floccosus, gracilis, subtiliter striatus. Folia rosularia 5—10 longe petiolata, exteriora minora v. parva obovata saepissime emarcida, media cordato-ovata obtusa vel elliptica v. oblongo-lanceolata, obtusa v. acuminata, intima saepe lanceolata acuta subito sensimve in petiolum basi late vaginantem angustata, saepe omnia basi truncata, irregulariter grosse v. incisodentata, dentibus saepe in petiolum descendentibus, supra epilosa \pm prasino-viridia glaucescentia et \pm intense brunneo-maculata, inferne dilute cano-viridia et disperse pilosa, in margine nervo dorsali petioloque \pm dense breviterque pilosa, 1—3 mm, in nervo dorsali praeterea \pm floccosa, pilis distincte dentatis albis; caulinum 0—1 anguste lanceolatum. Inflorescentia laxè paniculata v. altefurcata, acladium 15—50 mm longum ($\frac{1}{2}$ totius caulis), rami primarii (0—) 1—3 (—4) remoti oblique patentes monocephali (v. simpliciter ramosi), capitula (1—) 2—5 (—7). Involucrum sat magnum 12—14 mm longum denique globosum, squamae angustae longe acuminatae acutissimae obscurae (interiores dilute submarginatae), disperse mediocriterve floccosae, dense breviterque albopilosae fere eglandulosae. Pedunculi

albido-cani mediocriter pilosi sparsim tenuiterque glandulosi. Flores conspicui saturate lutei stylus luteus, ligulae apice glabrae; achaenia atra, 3—3,5 mm longa.

Hab. *Vallesia*: In rupibus inter Bramois et Nax, Vex, Approz—Nendaz, Isérable, Sion, Zapud, Bieudron, Ypresse, Vercorin, in valle Sionnetal (Wolf), in fauce Rawyl supra Lens (Besse). — Flor. Maio—Iulio.

Tab. 104. *H. Rionii* Greml (pr. Nax. leg. F. O. Wolf). 1. Squama. 2. Pedunculus sub involucrio. 3. Portio e caule medio. 4. Nervus dorsalis foliorum.

Huc pertinet *H. prasinellum* Bicknell et Zahn nov. subsp., sine dubio forma intermedia inter *H. pellitum* Fries ssp. *pellitum* var. *quercifolium* N. P. et *H. prasinops* ssp. *supraglaucum* Bicknell et Zahn, ergo formulae (*lanatum—silvaticum*) — (*pictum—bifidum*) respondens. Caulis 30—40 cm altus subflexuosus, superne dense floccosus et pilis 1—1,5 mm longis albis mollibus mediocriter numerosis obsitus, basin versus minus floccosus pilosusque. Folia ut in *H. Rionii*, sed in margine subtusque densius pilosa, in nervo dorsali effloccosa pariter ac in petiolo breviter crispo-villosa, supra intense glauca prasino-iridia glabra v. marginem tantum versus pilis dispersis rigidiusculis munita, immaculata. Acladium 5—10 cm longum, rami primarii 1—2 (—3) monocephali rarius furcati, capitula (1—) 2—3 (—5). Involucrum fere ut in *H. Rionii* sed praecipue basin versus densius albopilosum breviter subvillosum, squamae subangustiores, interiores viridi-marginatae apice obscuriores. Pedunculi dense floccosi pilosique apice obscuriores et glandulis tenellis brevibus dispersis saepissime in caulibus partem superiorem descendentes obsiti.

Hab. in valle Fontanalba iuxta iugum Col di Tenda 1700 m in Alpibus Maritimae Italiae, leg. d. 10. Aug. 1906 cl. Cl. Bicknell, qui hanc plantam in nostra Hieraciotheca Europaea edet.

67. Hieracium pictiforme Zahn = *pictum—silvaticum* Zahn, in Schinz et Kell. Fl. d. Schw. ed. 2 II (1905) p. 307 et in Hierac. d. Schw. (1906) p. 343; *H. rupestre* ssp. *pictiforme* Zahn, in Koch Syn. (1901) p. 1829; *H. Gremlii* Wolf in sched., nec Greml, Exk.-Fl. ed. 4 p. 279; nec A.-T.

Caulis 30—55 cm altus tenuis v. gracilis, saepissime sparsim floccosus, disperse, basin versus sat dense pilosus, pilis ad 3 mm longis conspicue dentatis. Folia rusularia ut in *H. picto* v. *H. silvatico*, ± glaucescentia, supra glabra et inconspicue v. distincte maculata, in parte aversa ± mediocriter molliterque pilosa, in margine nervoque dorsali et in petiolo densius pilosa, 1—3 mm (pedunculus breviter subvillosus), dentata v. irregulariter grosse dentata, dentibus saepissime numerosis; caulina 1—3 lanceolata v. linearia. Acladium 10—25 mm longum, rami primarii 2—5 valde remoti arcuati v. oblique patentes simpliciter ramosi, capitula 5—15. Involucrum 10—11 mm longum denique crasse ovatum, squamae e basi sublatiuscula acuminatae acutiusculae et acutae, mediocriter breviterque pilosae ± subfloccosae et disperse tenuiterque glandulosae. Pedunculi consimiles mediocriter tantum v. interdum subdensius floccosi. Flores stylique lutei, ligulae apice glabrae, achaenia atra.

Hab. in flora Vallesiaca et Valdostana. — Flor. Iun.—Iul.

Subspecies *pictiforme* Zahn l. c. Folia ut in *H. picto*, longe petiolata, exteriora saepe elliptico-spathulata obtusa, reliqua lanceolata spathulata acutiuscula v. intima longe acuminata, omnia glauca, in petiolum breviter longeve angustata, multidentata (utrumque

ad 10 dentes), basin versus dentibus ad 10 mm longis in petiolum descendentibus sensim decrescentibus praedita, supra distincte v. inconspicue maculata; caulina 1—3, saepe inferiora 2 evoluta lanceolata sat longe petiolata valde grosse dentata, v. unum tantum evolutum et reliqua elongata linearia. Rami primarii ad 5 (ex omni ala), capitula ad 15.

Vallesia: Nax, Isérable (Wolf), in valle Saas (Vulpus), Lens (Besse). Flora Valdostana: Valsaravanche (Wilczek), Valpelline (Vaccari), Val Fenis (id.).

Tab. 104. *H. pictiforme* Zahn ssp. *pictiforme* Zahn (e valle Saas, leg. Vulpus). 1. Margo ligularum. 2. Squama interior. 3. Squama exterior. 4. Pedunculus sub involucrio.

Huc pertinet etiam subspecies **pseudo-Rionii** Zahn, Hier. d. Schweiz (1906) p. 343; *H. Rionii* et *pictum* × *murorum* Wolf in sched. p. p. Folia rosularia ovato-lanceolata obtusa v. elliptico-lanceolata subelongata acuminata acuta, basi ± cordata v. truncata v. subattenuata et ± grosse dentata, supra glabra gramineo-viridia saepissime intense brunneo-maculata; caulinum 1 radicalibus simile. Rami primarii 2—3, capitula 4—7. Habitus ut in *H. praecoci*.

Vallesia: In rupibus infra Nax, Varen—Leuk, Sion (Wolf), Visp—Stalden, in fauce Rawyl (Bernoulli), Riddes (Besse).

68. *Hieracium prasinops* Tout. et Zahn nov. sp. = *pictum*—*bifidum*.

Habitus ut in *H. bifido* Kit. Caulis 25—40 cm altus subtenuis striatus saepe subflexuosus breviter molliterque subpilosus fere usque ad basin subfloccosus fere semper eglandulosus. Folia rosularia c. 6 brevius longiusve petiolata, petiolis basi latioribus vaginantibus, exteriora saepissime multo minora ovata v. elliptica basi truncata apice obtusa v. brevissime acuta, reliqua multo maiora elliptica v. elliptico-lanceolata basi truncata v. breviter attenuata apice brevius longius acuminata acuta, vel intima lanceolata utrimque sensim acuminata acutiora, omnia irregulariter grosseque dentata, basin versus saepe grosse incisodentata, dentibus glanduloso-acutis saepe in petiolum descendentibus, supra glabra prasino-viridia v. subglauca haud maculata v. saepissime inconspicue v. magis distincte maculata v. partim tantum submaculata, in parte aversa dilute viridia breviter subpilosa, in margine nervoque dorsali et praecipue in petiolo dense breviter albopilosa, novella sericeo-subvillosa, pilis conspicue dentatis; caulinum 0—1 (—2) ± anguste lanceolatum acutissimum ± grosse dentatum v. elongatum lineare. Inflorescentia altefurcata, interdum profundius furcata, acladium ($\frac{1}{10}$ — $\frac{1}{4}$ — $\frac{1}{3}$ (— $\frac{2}{3}$) totius caulis longum, rami primarii 1—2 (interdum caulis lateralis evolutus), oblique erecti 1—3 cephalii, capitula 2—3 (—5). Involucrium 9—10,5 mm longum denique ovatum, squamae subangustae longe acuminatae acutae obscurae, interiores viridi-submarginatae apice saepe obscuriores, omnes breviter subpilosae subfloccosae v. obscure canae et glandulis valde solitariis sparsisve obsitae. Pedunculi c. 3 bracteis obscuris muniti superne obscure cani et glandulis dispersis pilisque brevibus parum numerosis obsiti, inferne minus floccosi brevius sparsiusque pilosi fere eglandulosi. Flores saturate lutei, ligulae apice glabrae, stylus subluteus, achaenia atra.

Hab. Delphinatus, Basses-Alpes, Col di Tenda. — Flor. Iun.—Iul.

Subspecies **prasinops** Tout. et Zahn. Folia maiora supra prasino-viridia submaculata, in nervo dorsali disperse floccosa. Squamae minus floccosae disperse glandulosae, acladium brevius.

Delphinatus: In iugo Col du Lautaret: pr. La Grave (A. et K. Touton); Basses-Alpes: pr. Siséron (Jaquet).

Tab. 105. *H. prasinops* Tout. et Z. ssp. *prasinops* (e iugo Lautaret, leg. A. et K. Touton). 1. Dentes ligularum. 2. Squama interior. 3. Squama exterior. 4. Pedunculus sub involucrio. 5. Nervus dorsalis foliorum.

Huc pertinet etiam ssp. **supraglaucum** Bicknell et Zahn n. ssp. — Folia supra glauca haud vel inconspicue maculata, in nervo dorsali effloccosa. Squamae praecipue basin versus dense floccosae sat dense pilosae fere eglandulosae, acladium saepe ad $\frac{1}{2}$ — $\frac{2}{3}$ totius caulis exhibens.

In valle Fontanalba iuxta iugum Col di Tenda 1650 m (C. Bicknell).

Hanc subspeciem in Hieraciothea Europaea edemus.

69. Hieracium Sandozianum Zahn = **pictum—vulgatum** Zahn, in Koch Syn. (1901) p. 1829; Hierac. d. Schweiz (1906) p. 344; *H. paradoxum* Gremli, Exk.-Fl. d. Schweiz (1896); nec Nees, in Flora (1822) p. 189; nec Schult., Obs. bot. p. 164; nec Janka, Oesterr. bot. Zeitschr. (1864) p. 295; *H. pictum*-Trachselianum ? Gremli l. c.; *H. pictum-vulgatum* Zahn, in Schinz et Kell., Fl. der Schw. ed. 2 II (1905) p. 307; *H. pictum* v. *paradoxum* Gremli in sched.; *H. pictum* v. *subfoliosum* A.-T. in sched.; *H. murorum* III ramosum β) nudicaule Gaud. herb. et in Fl. Helv. V p. 105.

Caulis 2,5—6 dm altus, interdum ascendens, tenuis v. gracilis, superne disperse, inferne sat dense longeque molliter pilosus, 2—4 mm, usque infra medium v. fere usque ad basin floccosus. Folia rosularia pauca v. complura, oblongo-lanceolata v. lanceolata, obtusa v. acuta, elongata, in petiolum subbreve \pm alatum longe attenuata, praecipue a medio ad basin grosse vel longissime serrato-dentata rarius dentibus brevioribus, dilute viridia subglaucescentia, supra immaculata v. distincte rubrobrunneo-maculata glabra, subtus mediocriter, in margine nervoque dorsali et in petiolo dense pilosa, pilis distincte dentatis vix semiplumosis; caulina (3—) 5—10 sensim v. subcito decrescentia, infima rosularibus similia \pm breviter petiolata vel pariter ac reliqua basi attenuata sessilia, summa anguste v. lineari-lanceolata sessilia denticulata v. integerrima. Acladium 1,5—6 cm longum, rami primarii (2—) 3—6 (—10) v. in plantis optime evolutis ex omni ala exserentes oblique erecti v. arcuato-patentes, inferiores foliosi, simpliciter (v. dupliciter) ramosi, capitula (3—) 5—12 (—30 v. complura). Involucrium 10—12 (—13) mm longum ovatum denique depressum; squamae e basi latiuscula acuminatae acutiusculae intimae angustae acutae, apice leviter barbulatae, atrovirides \pm late diluteque marginatae, mediocriter sat dense floccosae breviter modiceque pilosae sparsissime glandulosae. Pedunculi incani \pm disperse pilosi glandulosique, glandulis minutis. Flores stylium lutei, ligulae apice glabrae, achaenia atra.

Helvetia: Vallesia. — Flor. Iun. Iul.

Variat: 1) *normale* Zahn, in Schinz et Kell. l. c. p. 308. Planta elata valde ramosa, folia caulina 6—10 oblongo-lanceolata grosse dentata *H. vulgati* foliis similia. — Inter Aigle et Le Sepey ad viam (Sandoz), pr. St. Nikolaus in valle Zermattensi (M. Spencer), hoc loco dentibus foliorum ad 15 mm longis praeditum.

2) *centrovallesiacum* Zahn, Hier. d. Schw. p. 344; *H. paradoxum* typicum Gremli l. c. Folia late lanceolata, caulina saepissime 2—5 \pm lanceolata

serrata haud grosse dentata, capitula 2—6. Planta humilior 20—30 cm alta. — Saas (Bernoulli), Siders (Jaquet), pr. St. Nikolaus (M. Spencer), inter Visp et Tourtemagne (Chenevard), in iugo Simplon: Schalberg, Ganter, Iselle—Gondo (Chenevard, Bernoulli, Wolf), Geschenen pr. Muenster (Vetter), Barma de Zour supra Savièse (Wolf).

Habitus in exemplaribus bene evolutis omnino *H. vulgati*, indumentum ut in *H. picto*.

Tab. 106. *H. Sandozianum* Zahn (e loco classico Sandoziano). 1. Squama. 2. Pedunculus sub involuero. 3. Pili e foliorum margine.

Sectio X. **Heterodonta** [*Pseudocerinthoidea* A.-T., Essai classif. p. 7; Hier. alp. franç. (1888) p. 43; Zahn, in Koch Syn. p. 1831; *Rupicola* Gr. Godr., Fl. France II p. 376; A. Peter, in Engl.-Prantl, Nat. Pfl.-Fam. IV 5; Burnat et Gremli, Hier. alp. marit. p. 29; Stirps *H. italici* Fr., Symb. 123 p. p.; *Andryaloidea* Fr., Epicr. p. 74 p. p.; *Vulgata* Griseb., Omm. p. 36 p. p.]. — Plantae obscure virides v. parum glaucescentes squarroso-ramosae oligocephalae, ubique pilis glandulisque obsitae. Involucrum pilis sublongis et squamis ± regulariter imbricatis. Ligularum dentes glabri. Alveoli in margine glabri v. denticulati. — Folia rosularia distincte petiolata, pilis distincte denticulatis, caulina haud amplexicaulia; rhizoma haud pilis densis lanato-comosum.

70. Hieracium humile Jacq., Enum. hort. Vindob. III (1776) p. 2; Flor. Austr. IV (1776) in append. et in Murray, Syst. ed. 14 (1784) p. 717; *H. pumilum* Jacq., Fl. Austr. II, tab. 189; *H. Jacquini* Vill., Fl. Delph. (1785) p. 84; Hist. pl. Dauph. III (1789) p. 123, tab. 28.

Subspecies **pseudocotteti** Zahn, in Koch Syn. (1901) p. 1831; *H. Cotteti* A.-T. in sched. et A.-T. et Gaut., Hieracioth. Gall. no. 131; nec Godet! — Involucrum saepissime minus quam in *H. humili* typico, squamae ± obscurae, sed praecipue interiores ± late diluteque viridi-marginatae, saepe ± obtusiusculae. Stylus saepissime fuscescens. *Pedunculi disperse v. modice floccosi*. Folia obovata, elliptica v. oblango-lanceolata subdentata v. ± grosse dentata (haud inciso-lobata v. lacerata), sed pariter ac in subspecie typica subtus in nervo mediano effloccosa.

Helvetia: Salève (Ducommun), Valangin pr. Neuenburg (Vetter); St. Maurice (Favre), in alpinis supra Bex: Pont de Nant—Anzeindaz (Wilczek), Creux de Champ (Wagner); Montbovon (Cottet); Dorenaz (Wolf), Chemin neuf, La Bâthiaz, La Rappaz (Favre), Gueuroz, Tourtemagne, in fauce Gondoschlucht (Wolf), Binn (Besse); Bargis pr. Flims (Bernoulli), Hohenems (Custer); Val Bavona: in alpe Robiei (Chenevard); pr. Piora (Bernoulli). — *Delphinatus*: In m. Séuse pr. Gap (Burle).

Transitum inter ssp. *humile* typicum et *H. Cotteti* = *humile-silvaticum* sistit.

Tab. 107. *H. humile* Jacq. sp. *pseudocotteti* Zahn (Pont de Nant supra Bex, leg. Wilczek et Zahn). 1. Squama. 2. Pedunculus sub involuero. 3. Nervus dorsalis foliorum. 4. Margo foliorum.

Subspecies **lacerum** Reut., apud Fries, Epicr. (1862) p. 86; Christener, Hier. d. Schw. (1863) p. 14; *H. rupestre* Heg. et Heer, Fl. d. Schw. (1840); *H. Heerii* Bruegg. (1860) in sched. et in Berlepsch, Schweizer Führer (1862) p. 631. — Folia omnia ± conformia, rosularia saepissime numerosissima breviter longeve petiolata, omnia lanceolata v. anguste lanceolata saepe longa, irregulariter grosse dentata v. subpinnatisecta, dentibus numerosis ±

triangularibus saepe longe prominentibus, ima tantum oblongo-spathulata obtusa parva florendi tempore saepe iam emarcida, caulina superiora anguste linearia integerrima (pariter ac bracteae) longissima. Pili ubique \pm numerosi ad 3 mm longi, in parte superiore foliorum tantum dispersi. Squamae saepe obscurae obtusaeque.

Variat: $\alphagenuinum Zahn. — Helvetia orientalis usque ad 2500 m: In m. Feuerstein in valle Entlebuch (Bruegger); Sandalp pr. Glarus (Heer), in valleculis nonnullis m. Schnebelhorn (O. Naegeli), in valle Linth (Bruegg.), inter Weesen et Amden (Thellung), in m. Saentis: Wildkirchli (Christener); in valle Rhenana: Lienz, Sennwald, Hirschsprung pr. Oberried, Ragaz, Felsberg (Schlatter, Muret, de Salis), Calanda (Schlegel), Flims (Bernoulli), in m. Kistenstoeckli pr. Brigels (Correns), Vals (O. Heer), Wandfluh pr. Nufenen (Bruegger), Zapportalp (Heer), Viamala, Parpan (Bruegg.) Ausser-Ferrera (Kaesler), Alvaneu, Schiatobel pr. Davos (de Tavel), Berguenerstein (Mur.); Engadina: Maloja—Sils et in alibus adiacentibus (Bruegg., Favrat), Samaden (Leresche), Val Roseg, Val del Fain, Piz Alv, Bernina, Val Chamuera, Guardaval, in iugo Ofenpass, in rupestribus pr. Bormio (Kraettli, Ruebel, Braun, Muret, Heer, Brunies, Longa). — Supra Bellagio ad lacum Comensem (Heer; sed denuo comprobandum est). — Vorarlbergia: In fauce fl. Ill pr. Feldkirch (Bruegger), supra Stuben (id.), inter Au et Schreocken (Gugler); Tirolia: Schoenwies pr. Landeck (Murr), Schnanner Loch (Preisner).$

β) **sublacerum** Zahn, Hier. d. Schw. p. 351; *H. lacerum* A.-T., Hier. alp. franç. (1888) p. 44. — A typo recedit squamis longe acuminatis acutis v. acutissimis, involucris maioribus etc. — Grand Veymont en Vercors, Isère (Neyra!).

γ) **Oberleitneri** Sch.-Bip., in F. Schultz, Herb. norm. nov. ser. no. 1158! — Planta typo saepissime validior et elatior. Folia saepe latiora rigidiuscula obscurius viridia grosse dentata vix incisa, dentibus saepe minus numerosis; caulina saepe minus decrescentia ad 5 evoluta latiora quam in typo. Capitula vulgo (praesertim in acladio) maiora. — In m. Lindaumauer pr. Neustift Austriae superioris (Oberleitner!).

Varietas vicaria orientalis *H. laceri* genuini, antiquis temporibus ab area prima segregata et variationis liberae via nunc paulum mutata.

Tab. 108. *H. humile* Jacq. ssp. *lacerum* Reuter α) **genuinum** Zahn (e fauce rivuli Alfenz supra Stuben, leg. Murr). 1. Dentes ligularum. 2. Squama. 3. Pedunculus sub involucro. 4. Portio e margine foliorum. 5. Nervus dorsalis foliorum (interdum, nullo modo semper eglandulosus).

Tab. 109. *H. humile* Jacq. ssp. *lacerum* Reuter γ) **Oberleitneri** Sch.-Bip. (e loco classico, leg. Duerrnberger). 1. Squama. 2. Pedunculus sub involucro. 3. Marginis foliorum portio. 4. Nervi dorsalis foliorum portio.

71. *Hieracium Arpadianum* K. H. Zahn, nova sp.

Tota planta epilosa ubique glandulosa. Caulis ad 50 cm altus subtenuis glandulosus subfloccosus, phyllopodus (sed rosulae saepe \pm petiolatae, caulis prima specie hypophyllopodus). Folia sat magna, rosularia 2—4, longe tenuiterque petiolata ovalia v. late ovato-

lanceolata acutiuscula v. breviter acuta basi rotundata in laminae basi paulum in petiolum decurrentia, caulina 5—6 radicalibus similia sensim decrescentia remota sursum minus longe petiolata, summa basi subattenuata sessilia, omnia dilute viridia tenuia remote subdenticulata, ubique subglandulosa. Inflorescentia altefurcata, acladium c. 40 mm longum, rami primarii c. 4 remoti tenues, ordines axium 2—3, capitula 5 (—8) partim haud evoluta. Squamae obscure virides subangustae acutiusculae apice breviter barbulatae dilute viridi-marginatae ubique subfloccosae et sat dense tenuiterque glandulosae. Involucrum sat parvum ovatum ad 9 mm longum. Pedunculi dense floccosi sat dense glandulosi 2—3 bracteis subulatis obsiti. Flores lutei, ligulae apice glabrae, stylus obscurus, achaemia brunneo-atra.

Croatia. Velebit: In monte Crnopač supra Gračač 1000 m (Arpad de Degen).

Planta speciosissima, cum nulla alia comparanda, in sectionem *H. humilis* ad tempus inserta, propterea quod omnibus characteribus essentialibus huc pertinet, etsi habitu maxime differt. Reliquum est, ut addam, *H. Arpadianum* quoad habitum *H. pseudofastigiatum* Deg. et Zahn (tab. 86) evidenter in mentem revocare. Nescio an *H. Arpadianum* hybridum sit inter *H. humile* et aliquam formam ab *H. transsilvanico* derivandam.

Nomen „*Arpadianum*“ huic speciei indidi a praenomine cl. inventoris, i. e. a nomine herois et auctoris nationis Hungaricae.

Tab. 110. *H. Arpadianum* Zahn (e loco classico). 1. Dentes ligularum. 2. Squama. 3. Pedunculus sub involucre. 4. Nervus dorsalis foliorum. 5. Portio e margine foliorum.

Species intermediae.

72. Hieracium Kaeserianum K. H. Zahn = **humile—glaucum** vel **humile—hupleuroides**: Zahn, in Koch Syn. (1901) p. 1832, in Schinz et Kell., Fl. d. Schw. ed. 2 II (1905) p. 308; Hierac. d. Schw. (1906) p. 352.

Caulis 20—30 cm altus ± glaber v. disperse pilosus saepissime effloccosus, pilis 1—3 mm longis horizontaliter patentibus. Folia radicalia numerosa, exteriora obovata v. oblonga obtusa v. acutiuscula, reliqua (v. omnia) oblongo-lanceolata et lanceolata v. linearilanceolata acuta v. longe acuminata, omnia sensim in petiolum saepe brevem angustata v. angustata sessilia, denticulata v. dentata v. irregulariter grosse dentata v. more *H. humilis* lobata, dentibus interdum in petiolum descendentibus, saturate v. obscure viridia glaucescentia (saepe sublutescentia), subtus saepe pallidiora, interdum (praesertim petioli) subviolacea, ± rigida, utrimque ± glabra vel in parte aversa disperse ± molliterque pilosa, in margine nervoque dorsali et praesertim basin versus densius longiusque pilosa, 1—3 (—4) mm, praeterea glandulis minutissimis solitariis praedita v. ± eglandulosa; caulina 1—3, inferius interdum lanceolatum dentatum, vel omnia linearilanceolata v. linearia, elongata, interdum pariter ac radicalia in margine subundulata. Inflorescentia indeterminata altefurcata, acladium 4—8 cm longum, rami primarii 0—4 oblique patentes v. arcuato-erecti, foliis linearibus instructi, monocephali v. simpliciter rarius dupliciter ramosi, interdum caules laterales evoluti, capitula (1 —) 2—10. Involucrum 10—11 mm longum ovatum denique late depressum; squamae subangustae v. sublatiusculae imbricatae obtusae v. acutiusculae, intimae saepe acutae, apice saepe subbarbulatae, atrovirides v. subnigrae, parum vel (interiores) late viridi-marginatae, pilis patentibus subrigidiusculis sparsim v. fere mediocriter pilosae, saepissime in margine tantum mediocriter sat denseve floccosae, sparsim v. fere mediocriter obscureque glandulosae. Pedun-

culi sub involucrio saepissime subincrassati, disperse v. fere modice pilosi (pilis patentibus), apice saepe sat dense floccosae, deorsum citissime parcefloccosae v. effloccosae, pili saepe basi subatri, 1—2,5 mm longi. Bractee c. 3. Flores \pm saturate lutei, ligulae apice glabrae, stylus obscurus v. brunneus, achaenia \pm atrobrunnea.

Helvetia. Inter parentes. — Flor. Iul.—Aug.

Habitus *H. glauci* v. *H. bifidi*. Ab *H. humili* differt foliis radicalibus \pm rigidis \pm glabris, foliis caulinis saepissime lineari-lanceolatis v. linearibus, capitulis pedunculisque \pm floccosis, glandulis in tota planta valde deminutis. Ab *H. glauco* v. *bupleuroidi* differt foliis latoribus, saepe more *H. humilis* lobatis dentatisve et glandulis sparsis v. solitariis obsitis.

Subspecies **Kaesianum** Zahn l. c. — Folia rosularia fere omnia lanceolata serrato-dentata v. irregulariter grosse dentata, pariter ac involucria et pedunculi glandulis dispersis tenuissimis obsita.

Variat: α) **genuinum** Zahn, Hier. d. Schweiz p. 353. — Pedunculi inferne parcefloccosi, caulis fere effloccosus, tota planta ubique disperse pilosa, capitula 2—10. Helvetia: In valle Gasterental prope Kandersteg (Anna et Carolus Touton).

β) **calvicaule** Zahn. — Pedunculi apice tantum subfloccosi. — Helvetia: Inter Fusio et iugum Campolungo (Correns).

Tab. 111. *H. Kaesianum* Zahn ssp. *Kaesianum* α) **genuinum** Zahn (planta Toutoniana e valle Gasterental). 1. Dentes ligularum. 2. Squama. 3. Pedunculus sub involucrio. 4. Nervus dorsalis foliorum. 5. Marginis foliorum portio.

73. Hieracium cryptadenum Arv.-Touv. = **humile—villosum** A.-T., Hierac. nouv., in Bull. soc. bot. France XLI (1894) p. 329; *H. humile* \times *villosum* A.-T. l. c.; *H. dentatum* var. *ambiguum* A.-T., Hierac. alp. franç. (1888) p. 34; *H. subdentatum* A.-T. l. c.; *H. pseudodentatum* A.-T., Spicileg. p. 26; nec Billot; *H. diabolinum* N. P., Monogr. II (1886—1889) p. 235 p. p.; Zahn, in Koch Syn. (1901) p. 1774, in Schinz et Kell., Fl. d. Schweiz ed. 2 II p. 280 p. p.; *H. cerinthoides* < *villosum* N. P. l. c.; *H. humile-villosum* Zahn, in Schinz et Kell. l. c. in nota; Hierac. d. Schw. (1906) p. 353.

Caulis 20—45 cm altus gracilis flexuosus, pilis sat densis densisve 3—5 mm longis horizontaliter patentibus obsitus, superne saepe subfloccosus. Folia rosularia subnumerosa sat magna \pm petiolata \pm lanceolata obtusa v. acuta, denticulata v. sinuato-dentata v. dentibus nonnullis grossioribus praedita, saepissime glauca, in nervo dorsali basin versus et in caulis basi saepissime violacea, supra \pm glabrescentia v. fere mediocriter \pm rigidiusculeque pilosa, 2—3 mm; caulina 3—8 sensim, vel in plantis humilioribus citius decrescientia, ima radicalibus similia subpetiolata, superiora basi rotundata v. basi subcordiformia sessilia, saepe e basi late ovata acuminata. Inflorescentia furcata \pm squarrosa, accladium $\frac{1}{5}$ — $\frac{1}{3}$ totius caulis exhibens, rami primarii 1—2 (—3) remoti graciles arcuato-erecti monocephali vel simpliciter ramosi, capitula (1—) 2—3 (—6). Involucrum 12—17 mm longum magnum denique late ventricosum-globosum; squamae exteriores saepe angustiores sublaxae v. laxae, interiores latiores v. lanceolatae, omnes \pm acutae v. longe acuminatae acutissimae, atrovirides v. subvirides, saepissime dilutius marginatae. Bractee 3—5 foliaceae. Pili in involucrio densi diluti 2—4 mm longi, in pedunculis mediocriter numerosi v. densi. Glandulae involucri dispersae minutissimae, in pedunculis superne tantum valde solitariae, in foliis ubique nullae v. soli-

tariae minutaeque. Involucrum effloccosum, pedunculi modice floccosi v. tomentosi. Flores lutei, ligulae apice glabrae rarius breviter ciliatae, stylus saepissime luteus. achaenia dilute brunnea, c. 4 mm longa.

Hab. in Helvetia: Jura, Waadt, Wallis, Freiburg, Glarus, Appenzell, Zürich, Graubünden. Tessin; Carinthia; Stiria. Fere semper in consortio *H. humilis* ad radices rupium.

1. Folia supra mediocriter sat dense pilosa.

Subspecies **cryptadenum** A.-T. l. c. — Folia rosularia sat magna late lanceolata acuta mucronataque, longe attenuata basi subpetioliformia, remote denticulata v. dentata, in margine glandulis dispersis minutis obsita. Involucrum globosum, squamae angustae acutissimae. Capitula 2—3. Tota planta ubique sat dense pilosa, 2—4 mm. Habitu *H. dentati* capitulis *H. villosi* similibus.

Helvetia: In rupibus ad lacum Kloentalersee 900 m (Bruegger); ad rupes silvaticas m. Ornberg pr. montem Bachtel supra viam inter Wernetshausen et Wald 800 m (Benz); in faucibus m. Schnebelhorn: prope Baerloch (Schulthess), in fauce Fruehtobel 950—1000 m (O. Naegeli); inter Baerloch et Ragenbuch 1045 m, inter Baerloch et Strahlegg (O. Naegeli), in faucibus Vorderschuertobel 920 m, Baurenbodenschlucht 950 m (O. Naegeli), Leutobel 920 m, Vordere Töss versus Hüttkopf 880 m (idem); in vallecula Bruelltobel pr. Appenzell (Sulger). Flora Valdostana: Dondena all' Echelette in valle Champorcher 1700 m (Vaccari).

Planta rarissima et eximia, praesertim in valleculis circum m. Schnebelhorn ad orientem oppidi Turici ab O. Naegeli lecta. In consortio huius subspeciei hinc inde crescit *H. humile* Jacq. v. huius subspecies lacerum Reut, sed *H. villosum* omnino deest v. crescit locis distantibus elatioribus. Ex mea sententia *H. cryptadenum* relictum ex ultima periodo glaciali est.

Tab. 112. *H. cryptadenum* A.-T. ssp. *cryptadenum* (A.-T.) Zahn (e vallecula Fruehtobel, leg. O. Naegeli). 1. Squama. 2. Pedunculus sub involucro. 3. Marginis foliorum portio. 4. Nervus dorsalis foliorum.

Subspecies **pseudovillosiceps** Zahn, in Hierac. der Schweiz (1906) p. 355. Caulis ad 35 cm altus gracilis subflexuosus ubique sat dense longeque pilosus, 3—5 mm, effloccosus eglandulosus, basi ± violaceus. Folia rosularia 4—6 dilute viridia parum glaucescentia anguste lanceolata subelongata, apicem versus brevius acuminata acuta, basin versus longissime sensimque attenuata alato-petiolata petiolis basi subviolaceis, fere integerrima, utrimque sat dense, in margine nervoque dorsali densius pilosa, 3—4 (—5) mm, effloccosa, hinc inde in nervo dorsali vel in margine una altera glandula inconspicua munita; caulina ad 7 sensim decrescientia radicalibus similia, sensim brevius petiolata acutioraque vel superiora basi angustata sessilia, summa saepe ovato-lanceolata basi subrotundata sessilia, effloccosa. Inflorescentia altefurcata, acladium 4—7 cm longum, rami primarii 0—2 monocephali, capitula 1—2—3. Involucrum 12 mm longum ventricosoglobosum, squamae subangustae anguste lanceolatae acutae atrovirides, pilis densis 2—2,5 mm longis apice albidis subvillosae, tenuiter subglandulosae effloccosae, interiores in margine dilutiores. Pedunculi sat dense pilosi, pilis 2—3 mm longis basi atris, apicem versus tantum mediocriter floccosi et disperse glandulosi. Bractae c. 3, inferiores subfoliaceae parvae. Flores lutei, ligulae apice glabrae saepe abbreviatae stylis subobscuris saepe distincte prominentibus, achaenia brunneo-atra.

Hab. in Stiria: In valle St. Ilgen ad pedem m. Hochschwab in rupibus ad 800 m, detexit de Handel-Mazzetti.

Tab. 113, fig. B. 4—6. *H. cryptadenum* A.-T. ssp. *pseudovillosiceps* Zahn (e loco classico, leg. cl. inventor). 4. Squama. 5. Pedunculus sub involucri. 6. Margo foliorum.
1*. Folia supra glabra, marginem versus tantum (pariter ac in margine et in parte aversa) subpilosa.

Subspecies **friburgense** N. P., Monogr. II p. 238; ? *H. Candollei* Froel., in DC. Prodr. VII (1838) p. 212 p. p.; nec Monnier, Essai p. 48; ? *H. cerinthoides* b) *Candollei* Reichb., Comp. p. 79, tab. 137 fig. 2; Cottet in sched.; N. P. l. c.; *H. flexuosum* var. *longifolium* Gaud. herb. p. p.; *H. villosum* var. *fol. dentatis* Gaud. herb. p. p.; nec Gaud., Fl. Helv. V p. 97; *H. callianthum* A.-T. in sched.; nec Hier. alp. franç. p. 29. Habitus *H. dentati*. Caulis ad 48 cm altus ± dense rigidiusculaque pilosus, 4—5 mm. Folia rosularia sat magna oblongo-lanceolata v. lanceolata subpetiolata, in margine saepe ± undulata et dentibus nonnullis praecipue in foliis exterioribus ± grossis saepe varie longis munita; folia caulina (3—) 4—6 sat magna oblongo- v. ovato-lanceolata, superiora basi rotundata, sat longe acuminata acuta; omnia glauca ± rigida. Acladium 3,5—15 cm longum, rami primarii 1—2 (—3) valde remoti, capitula 2—3 (—4). Involucrium 15—16 mm longum *H. villosi* simile, squamae lineares acutissimae atrovirides dense pilosae, 3—4 mm, sparsim glandulosae. Pedunculi incani fere eglandulosi mediocriter pilosi, bracteis c. 3 ± angustis subfoliaceis. Dentes ligularum breviter ciliati, stylus subbrunneus.

Helvetia: Rochers de Naye, Moléson (Gaudin herb.), Bonaudon (Cottet, Lagger, Zahn), Les Martinets supra Les Plans (Favrat!), Creux du Van in montibus Jura (Muret!).

Exsiccata: Zahn, Hieraciotheca Europaea, Cent. I no. 61 a.

Tab. 113, fig. A. 1—3. *H. cryptadenum* A.-T. ssp. *friburgense* N. P. (e loco classico Bonaudon, iuxta iugum leg. ipse). 1. Dentes ligularum. 2. Squama. 3. Pedunculus sub involucri.

74. Hieracium leucophaeum Grenier = **humile—scorzonerifolium** Godet = **humile—villosum—glaucum** vel **humile—villosum—bupleuroides**. Gren. Godr., Fl. France II (1850) p. 354; Zahn, in Schinz et Kell., Fl. d. Schweiz ed. 2 II (1905) p. 309. — Huc pertinent 1) *H. bernense* Christener, Mitt. Bern. naturf. Gesellsch. 1860; Hierac. d. Schweiz (1863) p. 12, tab. 1: N. P. II p. 164; 2) *H. Godeti* Christener, apud Gremli, Neue Beitr. I p. 94; *H. petrophilum* Godet apud Christener l. c.; *H. humile* v. *petrophilum* Godet, Fl. du Jura Suppl. (1869) p. 124; non A.-T.; *H. humile* × *scorzonerifolium* Godet l. c.; 3) *H. misaucinum* 2) *supracalvum* N. P. II p. 239; 4) *H. heterodon* A.-T. in sched., nec Essai suppl. p. 10, nec Bull. soc. Dauph. (1880) p. 285, nec Hierac. alp. franç. p. 43; 5) *H. leucophaeum* A.-T., Hier. alp. franç. p. 22 quoad synonyma: *H. petrophilum* Godet et *Godeti* Christener; 6) *H. diabolinum* ssp. *diabolinum* α) *genuinum* et γ) *platyphyllum* N. P. II p. 237.

Caulis 10—45 cm altus gracilis ± flexuosus v. fractiflexus striatus disperse v. mediocriter diluteque pilosus, 1,5—4,5 mm, superne saepe subfloccosus. Folia rosularia ± numerosa indistincte petiolata v. saepissime basin versus angustata haud petiolata, denticulata v. remote dentata v. grosse sinuato-dentata, saepe in margine ± undulata, saepissime lanceolata, exteriora saepe obtusa reliqua acuta, in parte superiore sparsim mediocriter v. pilosa v. in margine tantum et in parte aversa mediocriter vel (in nervo dorsali) sat dense pilosa, 1,5—3 mm, omnia glauca saepe ± rigida et in margine glandulis minutissimis sparsis obsita; folia caulina 4—8 saepissime sensim decrescentia, inferiora mediaeque basi angustata sessilia, vel media summaeque basi lata v. ovata v. subamplexicaulia sessilia

acuminata acuta. Inflorescentia indeterminata furcata, acladium 4 cm vel $\frac{1}{3}$ ($-\frac{1}{2}$) totius caulis exhibens, rami primarii 1—4 (in exemplaribus vegetis ad 6) arcuato-erecti foliosi monocephali v. simpliciter ramosi, capitula (1—) 2—4 ($-\frac{1}{2}$). Involucrum 10—15 ($-\frac{1}{2}$) mm longum ovato-globosum v. ventricosum-globosum, squamae \pm conformes, e basi latiuscula acuminatae acutae v. interiores multo latiores quam exteriores et eae saepissime \pm obtusiusculae, fere effloccosae v. (praecipue in margine) \pm dense floccosae, saepissime disperse tenuiterque glandulosae, sat dense v. dense pilosae, 1,5—3 mm. Pedunculi \pm pilosi, superne tantum floccosi v. \pm tomentosi, glandulis solitariis v. dispersis saepe etiam in caulem descendentibus obsiti. Bracteae 3—5, inferiores saepissime subfoliaceae. Flores lutei, stylus saepissime luteus v. subobscurus, dentes ligularum saepissime glabrae, achaenia brunnea, c. 4 mm longa.

Hab. locis petrosis calcareis in ditione *H. humilis* et *H. scorzonerifolii* inter 800—1700 m. — Flor. Iul.—Aug.

Distinximus in Hierac. d. Schweiz (1906) p. 356 greges sequentes huius speciei collectivae:

- a) *Leucophaeum* Zahn. Folia tantum denticulata v. breviter dentata; glandulae ubique sparsissimae. Plantae *H. scorzonerifolio* magis affines. — Ssp. *bernense* Christener, ssp. *leucophaeum* Gren.
- b) *Godeti* Zahn. Folia denticulata v. grosse dentata; involucrum sat magnum; glandulae ubique dispersae. Formae intermediae v. *H. humili* subaffiniores. — Ssp. *fusiense* Zahn, *Godeti* Christener, *diabolinum* N. P.
- c) *Gremlii* Zahn. Folia sat parva saepissime tantum denticulata, caulina cito decrescentia, involucrum minus. — Ssp. *Gremlii* A.-T., ssp. *asterinum* A.-T.

Subspecies **fusiense** Zahn, Hier. d. Schweiz (1906) p. 351; *H. humile* \times *Godeti* Zahn l. c.; *H. humile* ssp. *fusiense* Zahn l. c. Habitus *H. humilis*. Caulis ad 20 cm altus gracilis pariter ac omnes plantae partes mediocriter fere pilosus, effloccosus. Folia rosularia ovato-lanceolata sat magna acutiuscula v. acuta, sensim in petiolum brevem late alatum angustata, interiora sensim angustiora, intima saepe anguste lanceolata, omnia \pm rigida glauca, supra sparsim pilosa v. glabrescentia, sparsissime minutissimeque glandulosa, denticulata v. dentata; caulina c. 3 lanceolata v. anguste lanceolata fere integerrima. Acladium $\frac{1}{3}$ — $\frac{1}{2}$ totius caulis exhibens, rami primarii (1—) 2—3 valde flexuosi monocephali v. interdum simpliciter ramosi, capitula 2—5 illis *H. humilis* valde similia. Pedunculi superne breviter cani, bracteis c. 4—5 linearibus subulatisve obsiti. Reliqua ut in *H. humili*.

Helvetia australis: Secundum semitam superiorem supra Colla pr. Fusio versus iugum Campolungo in valle Maggia superiore (leg. ipse).

Crescit hoc loco in consortio *H. humilis*, *H. scorzonerifolii*, *H. bernensis*, *H. diabolini* et *H. Godeti* et transitum inter *H. humile* et *H. Godeti* sistit.

Tab. 114, fig. A. 1, 2. *H. leucophaeum* Gren. ssp. *fusiense* Zahn (e loco class., leg. ipse). 1. Squama. 2. Pedunculus sub involucrio.

Subspecies **Gremlii** A.-T., Hier. alp. franç. p. 35; Zahn, Hier. d. Schw. p. 359; *H. misaucinum* 3) *angustifolium* N. P. II p. 239; *H. dentatum* var. *hirtum* Lagg. in sched.! et in Fries, Epicr. (1862) p. 63; *H. denticulatum* Schl. herb. p. p.!; *H. scorzonerifolium* Christener in sched.! Caulis 25—30 cm altus flexuosus mediocriter v. sat dense albopilosus, usque ad medium floccosus, pilis 3—6 mm longis subrigidis horizontaliter patentibus. Folia rosularia lanceolata v. anguste lanceolata, fere integerrima v. denticulata v. dentata, acutiuscula v. acuta, longe sensimque in basin petioliformem attenuata, supra sparsim mediocriterve, in margine

subtusque mediocriter v. sat dense (praecipue in foliorum basi) rigidiusculeque pilosa, 2.5—4 mm, caulina 3—6 sat parva et subcito decrescentia, summa e basi ovata acuminata. Acladium 5—8 mm longum, rami primarii 1—2 monocephali v. interdum simpliciter ramosi, capitula saepissime (1—) 2—3 (—6). Involucrum 11—12 mm longum, squamae e basi latiuscula acuminatae acutae, atrovirides v. atrae, interiores viridi-marginatae, dense albo- et subrigidiuscule pilosae, 1—2.5 (—4) mm, disperse vel mediocriter (praecipue in margine et saepe usque ad apicem) floccosae, disperse minuteque glandulosae. Pedunculi quoad indumentum consimiles, superne subincrassati incani sat dense pilosi, bracteis 3—7 linearibus obsiti. Achaenia, atra, stylus luteus.

Variat: 1) *normale* Zahn, Hier. d. Schw. p. 360. — Sabaudia: Cornettes de Bise supra Léchaux (Briquet); Flora Valdostana: Lillaz 1700 m (Wilczek), Chapelle du Crêt (Besse), Bard-Champorcher-Chardoney (Vaccari); Helvetia austro-occidentalis: Salève (Delasoie), La (Rappaz (id.), Bonatchesse (Wolf), Fionney-Mauvoisin (Bernoulli), Fay de Sembrancher et supra Lourtier (Favrat), in rupibus vallis Salvan (Schleicher), infra iugum Col de Forclaz versus vallem fl. Trient (Chenevard), in alpinis supra Bex: Nombrieux, Le Richard, Paneyrossaz, Pont de Nant, Pied du Berthex (Muret), Le Lavanchy (Favrat), Les Plans (Lagger), Sex Rouge et Léchéret 19—2100 m (Naegeli) et Creux de Champ. pr. Diablerets (Zahn), in rupibus pr. Dorénaz et ad pedem m. Dent de Ruth supra Château-d'Oex (Leresche), in iugo Sanetsch, 1800 m (Besse); Helvetia orientalis: in iugo Albula 14—2300 m (Peter), in valle Fex (Naegeli-Peter); Helvetia australis: 1000—1800 m: Piano-Frodalto, Corte grande → Alpem Gangielli in valle Peccia, San Carlo—Campo—Robiei in valle Bavona (Chenevard).

2) *pleiophyllum* N. P. II p. 239. Folia caulina 6—8 sensim decrescentia, ima petiolata, media basi attenuata sessilia, summa basi ovata. Caulis elatior ramis longioribus. — Creux de Champ (Naegeli, Zahn), Sex Rouge (Naegeli).

Exsiccata: Hieracia Naegeliana no. 390.

Tab. 114, fig. B. 3—5. *H. leucophaeum* Gren. ssp. *Gremlii* A.-T. (Creux de Champ, leg. ipse). 3. Squama. 4. Pedunculus sub involucri. Portio e margine foliorum.

Subspecies *asterinum* A.-T. et Briquet, Indic. Epervières alp. Léman., Bull. herb. Boissier XI (1894) p. 622; Zahn, Hierac. d. Schw. (1906) p. 359; *H. flexuosum* Muret in sched.; *H. denticulatum* Schl. in sched. p. p. Rhizoma saepe pluricaule. Caulis 25—35 cm altus subtenuis flexuosus mediocriter pilosus usque ad medium floccosus, pilis 3—4 mm longis patentibus. Folia rosularia lanceolata acutiuscula et acuta, remote et glanduliforme denticulata v. subintegerrima, longe petioliformeque attenuata v. brevissime petiolata, saepe subplicata, luteoviridia glaucescentia v. glauca, supra disperse pilosa v. glabra, in margine subtusque saepissime mediocriter pilosa, 2—4 mm, fere omnino eglandulosa; caulina 4—6 subcito decrescentia, inferiora attenuata basi petioliformia, reliqua basi parum attenuata v. rotundata sessilia v. ovato-lanceolata longe acuminata. Acladium 5—8 cm longum, rami primarii 2—3 erecti saepissime monocephali, bracteis 4—8 longe acuminatis acutis, infimis subfoliaceis obsiti. Involucrum 11—13 mm longum, squamae e basi latiuscula acuminatae acutae v. acutissimae, obscurae, interiores subviridi-marginatae, subdense pilosae, 1—2 mm, basin versus in margine mediocriter v. sat dense floccosae, disperse minuteque glandulosae.

Pedunculi incani, mediocriter pilosi, pilis basi atris, disperse glandulosi, apice subincrassati. Flores saturate lutei, stylis luteis v. subbrunneis, achaenia dilute v. obscure brunnea.

Hab. in Alpibus Lemanensibus: inter Colonnaz et lacum Flainensem 1400 m (Briquet); in Flora Valdostana: Chavanis (Wilczek), Porcherie d'Ollomont (Besse); in Helvetia austro-occidentali: supra Bex: Solalex-Anzeindaz (Schleicher), Le Berthex (Muret), Les Plans, Les Martinets (Masson), Col des Essets, Boëllaire (Wilczek), Prapioz pr. Ormons (Muret); Klusalpe—Walopalpe et Klusalpe—Reidigalpe pr. Reidenbach in valle Simmental (Maurer, Zahn); Alpen ad partem meridionalem iugi Simplon (Chenevard).

Tab. 115. *H. leucophaeum* Gren. ssp. *asterinum* A.-T. (inter Klusalpe et Walopalpe, leg. ipse). 1. Dentes ligularum. 2. Squama. 3. Pedunculus sub involucri. 4. Margo foliorum.

75. Hieracium Toutonianum Zahn = **humile—Schmidtii** (ssp. *rupicolum*!) Zahn, in Schinz et Kell. Fl. d. Schweiz ed. 2 II (1905) p. 309 et Hierac. d. Schweiz (1906) p. 360; *H. coerulaceum* α) *H. Toutonianum* Zahn, in Koch Syn. (1901) p. 1834.

Caulis ad 20 cm altus valde flexuosus tenuis v. gracilis usque ad basin floccosus et ± violaceus. Folia rosularia sat magna, petiolata, ovato- vel oblongo-lanceolata, sensim in petiolum angustata, acutiuscula v. acuta plerumque plicata, remote denticulata vel dentibus nonnullis grossioribus munita, glauca, supra disperse rigideque pilosa v. glabrescentia, subtus fere mediocriter, in nervo dorsali densius pilosa, 2—3,5 mm, in margine subdense et sub-setoso-pilosa, 2—3 mm, in margine et in nervo dorsali subfloccoso disperse minuteque glandulosa, rigidiuscula, maxima ad 12 cm longa 20—35 mm lata; caulina 2—3 lanceolata vel iam inferiora anguste lanceolata, summa linearia longe acuminata acuta. Acladium 3—7 cm longum, rami primarii 2—5, plerumque 1—2 tantum evoluti, squarrosi et arcuato-patentes v. ascendentes, monocephali v. simpliciter ramosi, capitula 2—10, saepissime 2—4 tantum evoluta. Involucrium 11—12 mm longum denique latissimum depressum *H. humilis* simile squamae lanceolatae acutae atrovirides albo-viridi-marginatae, pilis 2—2,5 mm longis dilutis subpilosae, fere mediocriter glandulosae sparsimque floccosae. Pedunculi dense floccosi v. albido-cani, subpilosi, subglandulosi, bracteis c. 4—6 subulatis obsiti. Flores stylique lutei, ligulae apice glabrae, achaenia atro-brunnea. Flores sat magni.

Hab. in Helvetia austro-occidentali. — Flor. Iun.—Iulio.

Sine dubio inter *H. rupicolum* Fries et *H. humile* Jacq. hybridum.

Variat: 1) *normale* Zahn, Hierac. d. Schweiz p. 361. Caulis superne mediocriter, inferne subdense albopilosus, 2,5—4 mm; flocci in pedunculis, in caulibus nervisque dorsalibus foliorum ± dense evoluti. — Vallesia: Ad rupes supra S. Maurice pr. sacellum Notre Dame du Scex (Zahn, Besse.)

2) *calvicaule* Zahn l.c. Caulis sparsim breviterque pilosus, flocci minus dense evoluti, sed in caule usque ad basin descendentes. — Ibidem (Zahn). — *H. humili* paulo magis affine quam forma normalis.

Tab. 116. *H. Toutonianum* Zahn (e loco classico, leg. ipse). 1. Squama. 2. Pedunculus sub involucri. 3. Margo foliorum. 4. Nervus dorsalis foliorum.

76. Hieracium Cotteti Godet = **humile—silvaticum** Zahn; Godet, Fl. du Jura suppl. (1869) p. 124 et in sched.; Gremli, Neue Beitr. I p. 94; Zahn, in Schinz et Kell., Fl. d. Schweiz ed. 2 II (1905) p. 309, Hierac. d. Schweiz (1906) p. 361; *H. squalidum* A.-T., Essai

(1871) p. 45 p. p.; Hierac. alp. franç. p. 45 p. p.; *H. Jacquini* ~~*murorum*~~ A.-T., Spicileg. p. 28; *H. humile* \times *murorum* ? A.-T., Hierac. alp. franç. l. c.; *H. intermedium* Lapeyr., Hist. abr. (1813) p. 471; *H. humile* Froel., in DC. Prodr. VII p. 214 p. p.

Caulis tenuis v. subgracilis, (10—) 20—45 cm altus ascendens vel erectus saepe flexuosus \pm subtiliter striatus, plerumque pariter ac petioli foliorum (obscure) violaceus, sparsim disperse glandulosus, sparsissime mediocriterve pilosus, 0,5—2 mm, pilis patentibus, \pm disperse floccosus v. effloccosus. Folia rosularia 4—8 saepe sat magna, foliis *H. humilis* v. *H. silvatici* similia, longe petiolata, exteriora minora ovata, sequentia elliptica, reliqua oblonga v. lanceolata, basi truncata v. in petiolum \pm contracta, rarius \pm cordata, cito sensimve acuminata, acutiuscula v. acuta, in margine superne denticulata medio dentata v. basin versus \pm grosse sinuatodentata v. inciso-dentata v. pinnatilobata, dentibus apice glanduliformibus interdum in petiolum descendentibus; caulinum plerumque unum brevius petiolatum v. subsessile radicalibus interioribus simile, vel duo evoluta et summum elongatum lineare, vel unum tantum subulatum cauli insertum; omnia \pm glauca, sublutescenti- v. saturate viridia, saepe \pm violacea, subrigida. Inflorescentia altefurcata v. laxe paniculata paulum suprafastigiata indeterminata, acladium (2—) 3—8 cm ($-\frac{4}{5}$ totius caulis) exhibens, rami (1—) 2—4 ($-\frac{7}{8}$) remoti v. valde remoti subtenues oblique patentes monocephali vel simpliciter ramosi, capitula 2—6 v. compluria. Involucrum 10—16 mm longum \pm ovatum basi rotundatum, denique saepe late depressum; squamae \pm angustae vel e basi latiuscula acuminatae, obtusiusculae v. acutae, subatrae v. obscure virides, interiores plerumque late albido- viridi-marginatae, apice saepe obscuriores, flores iuniores saepissime longe superantes. Bractee 1—4 subulatae. Pili involucri fere nulli v. mediocriter numerosi diluti v. \pm obscuri basi atri, rigidiusculi, 0,5—2 mm longi, in pedunculis superne consimiles, deorsum rarissimi v. nulli, rarius modice numerosi, in foliis nulli v. fere mediocriter numerosi, in margine nervoque dorsali et in petiolo mediocriter numerosi v. sat densi, 1—3 mm longi, in parte aversa dispersi. Glandulae involucri dispersae minutae, nonnullis maioribus immixtis, in pedunculis dispersae v. subnumerosae, in margine foliorum (et in nervo dorsali) pariter ac in petiolo dispersae minutissimae saepe subnullae. Flocci involucri nulli v. sparsissimi, in pedunculis sat densi v. mediocriter numerosi, deorsum cito nulli v. \pm profunde descendentes, in foliis interdum in nervo dorsali tantum dispersi, saepissime nulli. Flores dilute lutei, ligulae apice glabrae, stylus subobscurus, achaenia subatra.

Hab. in ditone et in consortio *H. humilis*. — Flor. (Iun.—) Iulio—Aug.

Dispositio gregum:

- a. Cotteti Zahn, in Schinz et Kell., Fl. d. Schweiz ed. 2 II (1905) p. 310. Habitus *H. humilis*, capitula 1—3 ($-\frac{5}{8}$). — Ssp. *pseudohumile* Zahn, Cotteti Godet, *subhumile* Zahn, *salvanicum* Zahn (cfr. Zahn, Hierac. d. Schweiz 1906 p. 362).
- b. Erucophyllum Zahn l. c. Habitus ut in *H. silvatico*, sed praecipue folia radicalia interiora saepissime valde grosse dentata v. more *H. humilis* lacerata, dentibus in petiolum descendentibus, in margine sparsissime minuteque glandulosa; capitula 5—10 ($-\frac{15}{8}$); inflorescentia laxe paniculata indeterminata. — Ssp. *erucophyllum* Zahn, *Prinzii* Kaeser (cfr. Zahn l. c.).

a. Cotteti Zahn.

Subspecies **subhumile** Zahn, in Koch Syn. (1901) p. 1835; *H. Jacquini* β *subintegri-folium* Gaud., herb.! Acladium 20—40 mm longum v. interdum longius, involucrum 9—11 mm longum. Folia plerumque sat parva, exteriora elliptica v. obovata, reliqua elliptico- v. oblongo-lanceolata acuminata saepe in parte aversa v. apicem versus purpurea, denticulata

v. basin versus grosse dentata, supra sparsim pilosa v. epilosa, subtus disperse, in margine petioloque mediocriter pilosa, 0,5—1,5 mm, in nervo dorsali subfloccosa. Caulis subpilosus, 1—2 mm. Glandulae tenues, in involueris pedunculisque pariter ac in foliis mediocriter numerosae, in caule dispersae.

Helvetia: St. Maurice Diabley (Favrat), La Chaux (Schleicher), Pont de Nant (Favrat), Binn—Nacken (Touton), in m. Torrenthorn supra Leuk (Bruegger), in iugis Gemmi (Favrat) et Sanetsch (Wolf), pr. Reidenbach in valle Simmental (Maurer), in alpe Stufenstein pr. Lauterbrunnen (de Rutté); Bargis pr. Flims (Bernoulli); Helvetia australis: in alpe Robiei pr. Campo (Chenevard).

Tab. 117, Fig. B. 3—5. *H. Cotteti* Godet ssp. *subhumile* Zahn (Reidenbach, leg. Maurer). 3. Squama. 4. Pedunculus sub involucrio. 5. Nervus dorsalis foliorum.

Subspecies **salvanicum** Zahn, Hierac. d. Schweiz (1906) p. 363. Caulis c. 25 cm altus, basin versus tantum subpilosus, fere usque ad basin subfloccosus, usque ad basin tenuiter glandulosus, obscure viridis, basi pariter ac foliorum pedunculi obscure violaceus. Folia rosularia ovata v. oblonga basi \pm cordata v. breviter angustata, obtusa v. acutiuscula, sordide viridia subtus pallidiora et saepe subviolacea, satis longe petiolata, denticulata, basin versus grosse lateque dentata, utrinque mediocriter brevissimeque pilosa, 0,5 mm, in nervo dorsali petioloque subdense longiusque pilosa, 2,5 mm, in margine subtusque disperse glandulosa. Folium caulinum lanceolatum v. lineare. Acladium 15—20 mm longum, rami primarii 3 valde remoti simpliciter ramosi, capitula c. 7. Involucrum 8—9,5 mm longum subrotundatum, squamae angustae acutae subfloccosae densissime tenuiterque glandulosae, pedunculi consimiles leviter cani tenues. Bractee 1—2. Stylus denique obscurus.

Helvetia: pr. Salvan Vallesiae (Schleicher, F. O. Wolf).

Habitus *H. humilis*, sed involucria, pedunculi et caulis pars superior epilosa.

Tab. 117, Fig. A. 1, 2. *H. Cotteti* Godet ssp. *salvanicum* Zahn (e loco classico, leg. Wolf). 1. Squama. 2. Pedunculus sub involucrio.

b. *Erucophyllum* Zahn.

Subspecies **erucophyllum** Zahn, in Schinz et Kell., Fl. d. Schweiz ed. 2 II (1905) p. 310 et in Hier. d. Schw. (1906) p. 363; ssp. *erucifolium* Zahn, in Koch Syn. (1901) p. 1835; nec A.-T., Spicileg. p. 31 et Hierac. alp. franç. p. 82 (1888). Caulis 30—40 cm altus disperse breviterque, basin versus densius pilosus, 0,5—2 mm, sparsim floccosus, basi pariter ac foliorum petioli \pm violaceus. Folia rosularia petiolata, exteriora parva elliptica, reliqua magna elliptico-lanceolata acutiuscula v. acuta, omnia brevius longiusve in petiolum angustata sordide viridia glaucescentia grosse sinuato-dentata, supra \pm epilosa, subtus disperse, in margine petioloque mediocriter pilosa, 0,5—1 (—3) mm, in margine glandulis solitariis minutis obsita, submolliia v. \pm rigida; caulina plerumque 2 breviter petiolata v. subsessilia lanceolata, saepe magis grosse sinuato-dentata sat magna et interdum tertium lineare evolutum. Acladium 5—60 mm, rami primarii 3—4 (—5) valde remoti simpliciter ramosi, capitula 5—10 (—15). Involucrum 10—12 (—14) mm longum, squamae subangustae acutiusculae v. acutae, interiores viridi-marginatae, omnes sat dense glandulosae sparsim v. submodice floccosae, pedunculi sat dense glandulosi dense floccosi v. cani. Stylus subobscurus.

Variat: $\alphagenuinum Zahn, in Koch Syn. l. c. Involucrum et pedunculi fere pilosi sat dense glandulosi. — Helvetia: In rupibus supra lacum pr. Taney (Zahn); Samnaun (Kaeser).$

β) **trichophorum** Zahn l. c. Involucrum et pedunculi subglandulosi subpilosique.
— Helvetia: Samnaun (Kaeser), Reidenbach in valle Simmental (Maurer).
Tirolia: Ad torrentem Eisack inter Gossensass et Sterzing (Murr).

Tab. 118. *H. Cotteti* Godet ssp. *erucophyllum* Zahn (ad torrentem Eisack, leg. J. Murr).
1. Squama. 2. Pedunculus sub involucri. 3. Nervus dorsalis foliorum. 4. Margo foliorum.

77. Hieracium Balbisianum A.-T. = **humile-bifidum** Zahn. — A.-T. et Briquet, Nouv. not. flor. Alp. Lém., in Ann. jard. bot. Genève (1899) p. 137; Zahn, in Schinz et Kell., Fl. d. Schweiz ed. 2 II p. 310, et in Hierac. d. Schweiz (1906) p. 365; *H. humile-bifidum* Zahn l. c.; *H. Cotteti* Godet in sched. p. p.

Rhizoma saepe pluricaule. Caulis 15—25 (—30) cm altus ± tenuis flexuosus breviter subpilosus, 0,5—1 mm, plerumque usque ad basin disperse floccosus saepe violaceus. Folia rosularia breviter v. longe petiolata, petiolis obscure violaceis tenuibus mediocriter v. sat dense molliterque albopilosis, 1—2 mm, exteriora minora ovata obtusa basi truncata, interiora maiora saepe sat magna oblongo-ovata acutiuscula v. ovato-lanceolata acuminata vel ± triangulariter lanceolata subhastata, basi truncata v. breviter in petiolum decurrentia, praesertim basin versus dentata v. profunde et valde grosse sinuato-dentata, lobis ad 2 cm longis late lanceolatis v. triangulariter lanceolatis saepe in petiolum decurrentibus; caulina 0 vel 1—2 lanceolata v. anguste lanceolata, valde grosse dentata v. denticulata, summum lineari-lanceolatum longum acutissimum; omnia papyracea rigida sordide viridia glaucescentia (saepe sublutescenti-viridia), supra glabra, subtus pallidiora (interdum violacea) et disperse breviterque pilosa, in margine fere mediocriter pilosa, 0,5—1 mm, et glandulis solitariis praedita, in nervo dorsali subfloccosa, vel summum folium caulinum etiam in tota parte aversa subfloccosum, vel omnia folia subtus ± floccosa. Inflorescentia ± furcata, acladium 2—5 (—9) cm longum, rami primarii 1—3 remoti arcuato-erecti simpliciter ramosi, capitula 2—5 (—8). Involucrum 10—14 mm longum late ovatum v. globosum denique depressum, squamae e basi latiuscula acuminatae acutiusculae v. acutae, saepe apicem versus obscurae, atrovirides, interiores viridi-marginatae, dense v. mediocriter floccosae, subpilosae, 1—2 mm, disperse glandulosae, pedunculi cani v. tomentosi, superne mediocriter pilosi et disperse glandulosi, inferne disperse pilosi subglandulosi. Flores lutei, stylus obscurus v. luteus, ligulae apice glabrae, achaenia subatra.

Hab. in consortio *H. humilis* in Helvetia occidentali et australi et in montibus Dinara Dalmatiae. — Flor. Iul.—Aug.

Dispositio gregum:

- a. **Balbisianum** Zahn, in Schinz et Kell. l. c. Habitus *H. humilis*, involucrum 12—14 mm longum. — Ssp. *Balbisianum*.
- b. **Subcaesiiforme** Zahn, in Koch Syn. (1901) p. 1836. Habitus ut in *H. bifido*, involucrum 10 mm longum. — Ssp. *subcaesiiforme*.

a. **Balbisianum**.

Subspecies **Balbisianum** A.-T. l. c. Folia maiora in rosula valde grosse dentata, in nervo dorsali floccosa, caulina plerumque 1—2 evoluta saepe in tota parte aversa subfloccosa, acladium plerumque 5 cm longum, stylus obscurus.

Helvetia occidentalis inter 1300—2000 m: Taney (Bernoulli), Les Jumelles versus Lac de Lovenex (Briquet), Mauvoisin (Favrat), in albis supra Bex: Pont de Nant (Wolf),

La Varaz (Wilczek), Col de la Croix (Touton), Creux de Champ (Jaccard), Saille et Lousine (Besse), supra Ardon, Lens et Ayent (Wolf, Besse), in iugo Gemmi (Jaccard), prope Kandersteg et in vallibus Gasterental et Ueschinental (Kneucker, A. et K. Touton), pr. Reidenbach in valle Simmental (Maurer), in vallecule Les Morteys 1760 m (Zahn), Montbovon, Parey (Cottet). — Sabaudia: Pointe d'Angolon, Sommet du Môle, Cirque de Grédon, Chalets d'Ubine, Pointe de Lachau, entre la Tourbière et les chalets d'Ugeon (Briquet), Brizon (Thimothée). — Helvetia australis: Val Bavona: Alpe Robiei, Colla supra Fusio (Chenevard, Zahn). — Dalmatia: In montibus Dinara pr. Knin (de Degen).

Tab. 119. *H. Balbisianum* A. T. ssp. *Balbisianum* (A.-T.) Zahn (e rupibus infra Les Foyers haud procul ab Lac de Taney, leg. ipse). 1. Squama. 2. Pedunculus sub involucro. 3. Nervus dorsalis foliorum. 4. Margo foliorum.

b. Subcaesiiforme.

Subspecies **subcaesiiforme** Zahn, in Koch Syn. (1901) p. 1836, Hierac. d. Schw. (1906) p. 366. Folia rosularia coriacea, subtus saepe violacea, ovata v. ovato-lanceolata obtusiuscula, plerumque acuminata acuta denticulata, dentibus glanduliformibus, basin versus saepe magis grosse dentata, dentibus saepe subulatis in petiolum descendentibus, supra glabra sordide viridia glaucescentia, subtus pallidiora et brevissime parcepilosa, in nervo dorsali v. in tota parte aversa mediocriter v. sat dense floccosa, omnia \pm longe tenuiterque petiolata; caulinum 0 vel unum anguste lanceolatum denticulatum v. subulatum longum. Acladium 15—50 mm longum, rami primarii 2—3 simpliciter ramosi, capitula 2—5 (—10), squamae angustae longe acuminatae acutissimae mediocriter vel sat dense floccosae disperse pilosae fere eglandulosae, pedunculi consimiles, stylus subluteus.

Helvetia occidentalis: Bonatchesse in valle Bagne (Bernoulli), Reidenbach in valle Simmental (Maurer); in montibus Jura: Rehag in Jura Basileensi (Bernoulli), Creux du Van (Jeanjaquet); Helvetia orientalis: Samnaun (Kaeser). — Flora Valdostana: Epinel—Vieyes (Besse).

Tab. 120. *H. Balbisianum* A.-T. ssp. *subcaesiiforme* Zahn (pr. Reidenbach in valle Simmental, leg. † Maurer). 1. Squama. 2. Pedunculus sub involucro. 3. Pars aversa et nervus dorsalis foliorum. 4. Margo foliorum.

78. Hieracium salaevense Rapin = **humile—dentatum** Zahn. — Rapin, in Fries, Epicrisis (1862) p. 63 et in sched.!, Zahn, Hierac. d. Schw. (1906) p. 366; nec N. P., Hierac. Mitteleurop. II (1886—1889) p. 194; *H. villosum* var. *pseudodentatum* Billot, Fl. Gall. Germ. exs. no. 1026; *H. pseudodentatum* N. P. II p. 240; nec A.-T., Spicileg. p. 26; *H. misaucinum* N. P. II p. 238 p. p.; *H. villosum—cerinthoides—silvaticum* N. P. I. c.; *H. humile—dentatum* Zahn, in Koch Syn. (1901) p. 1836; Hierac. d. Schw. I. c.; *H. Maureri* Zahn I. c. p. p.

Caulis 10—48 cm altus tenuis v. gracilis flexuosus mediocriter v. sat dense pilosus, 2—4 (—5) mm, supra medium v. interdum fere usque ad basin floccosus. Folia rosularia sat parva v. sat magna subsessilia v. breviter petiolata in petiolum angustata, elliptica v. oblongo-lanceolata v. anguste lanceolata, exteriora interdum obovata obtusa, plerumque acuta interdum in margine subundulata, denticulata v. grosse dentata, supra sparsim v. sat dense pilosa, in parte aversa saepissime (praecipue in nervo dorsali pariter ac in margine petioloque) sat dense pilosa, 2,5—5 mm; folia caulina 2—4 (—8) oblonga v. lanceolata sat magna v. parva; omnia glaucescentia dilute v. saturate viridia mollia v. rigidiuscula.

Inflorescentia \pm furcata, acladium 1,5—10 cm longum, rami primarii 1—4 remoti monocephali v. simpliciter ramosi, capitula (1—) 2—4 (—8). Involucrum 12—15 mm longum denique late globosum, squamae angustae v. interiores latiusculae lineares acutae v. acutissimae, nigrae v. interiores viridi-submarginatae, modice v. sat dense glandulosae, effloccosae v. parceffloccosae, \pm dense diluteque pilosae, 1,5—2,5 mm; pedunculi bi- vel ad 5-bracteati (bracteae lineares), superne canofloccosi eglandulosi v. disperse glandulosi, mediocriter v. sat dense pilosi, 2—5 mm. Flores dilute lutei, stylus obscurus, ligulae apice glabrae v. inconspicue ciliatae, achaenia obscure brunnea v. atra 3—3,5 mm longa.

Hab. in consortio *H. humilis* in Sabaudia, Helvetia, Tirolia. — Flor. Iul.—Aug.

Habitus *H. dentati*, sed involucri et pedunculi \pm glandulosa, caulis et foliorum margo saepissime glandulis paucis inconspicuis obsitus.

Dispositio gregum:

- a. *Misaucinum* Zahn, Hierac. d. Schw. (1906) p. 367. Caulis ad 25 cm altus, folia caulina 1—3 (—4) parva lanceolata cito decrescentia. — Ssp. *misaucinum* N. P., *iugicolum* Zahn, *pseudogaudini* Zahn.
- b. *Salaevense* Zahn l. c. Caulis gracilis ad 35 cm altus, folia caulina 3—8 sat magna sensim decrescentia. — Ssp. *salaevense* Rap.

a) *Misaucinum* Zahn.

Subspecies ***misaucinum*** N. P. II p. 238 (excl. var.). Folia rosularia numerosa elliptica v. lanceolata acuta basin versus angustata sessilia v. breviter petiolata, dentata v. serratodentata subsinuata, utrimque sat dense pilosa, pilis \pm rigidiusculis; folia caulina 2—4. Acladium $\frac{1}{4}$ — $\frac{2}{5}$ totius caulis exhibens, rami primarii 0—2 (—3), capitula (1—) 2—4; involucrum 13—14 mm longum, squamae angustae acutissimae mediocriter glandulosae; pedunculi eglandulosi vel sub involucri tantum glandulis nonnullis praediti.

Helvetia orientalis: In valle Misox infra pagum San Bernardino 1300 m (Naegeli, Touton), San Giacomo (Braun), in alpe Vignone ad pedem m. Piz Ucello 20—2300 m (Bruegger!); in m. Kalkberg supra pagum Splügen (Naegeli); in convallibus Bevers et Fex Engadinae superioris (Favrat!). Helvetia australis: Inter Piano et Fodalto vallis Peccia (Chenevard). Tirolia: In iugo inter Schludersbach et Altpirg 1950 m (Naegeli).

Tab. 121, Fig. A. 1—4. *H. salaevense* Rapin ssp. *misaucinum* N. P. (e rupibus vallis Misox pr. San Bernardino, leg. A. et C. Touton). 1, 4. Squamae. 2. Pedunculis sub involucri. 3. Foliorum margo.

Subspecies ***pseudogaudini*** Zahn, in Koch Syn. (1901) p. 1836; Hierac. d. Schw. (1906) p. 368. Folia rosularia numerosissima, exteriora minora spatulata, reliqua oblongo-lanceolata v. lanceolata acutiuscula interdum apice \pm plicata, in petiolum brevem \pm late alatum sensim angustata, saepe subsinuato-subundulata, integerrima v. denticulata, basin versus interdum dentibus nonnullis grossioribus munita, disperse mediocriterve pilosa v. \pm glabrescentia, pilis ad 4 mm longis; caulina 1—3 lanceolata basi angustata subpetiolata cito decrescentia. Acladium $\frac{1}{2}$ — $\frac{1}{1}$ totius caulis exhibens, rami primarii 0—1, capitula 1—2. Involucrum 12—14 mm longum, squamae \pm angustae acutiusculae v. acutae laxè breviterque subvillosae \pm effloccosae et sparsim glandulosae. Pedunculi consimiles, canofloccosi subpilosi.

Helvetia occidentalis: Pont de Nant supra Bex (Favrat), in iugo Gemmi (Jaquet), in valle Simmental: Schattig Ripprecht supra Oberwil (Maurer).

Tab. 121, Fig. B. 5, 6. *H. salaevense* Rapin ssp. *pseudogaudini* Zahn (iuxta iugum Gemmi, leg. Jaquet). 5. Squama. 6. Pedunculus sub involucri.

b) *Salaevense* Zahn.

Subspecies *salaevense* Rapin l. c.; nec N. P. Caulis 20—30 cm altus sat dense inferne dense pilosus, 3—5 mm, usque ad medium subfloccosus, usque ad basin glandulis nonnullis praeditus. Folia rosularia magna subpetiolata v. angustata sessilia, oblonga vel obovata obtusa, pleraque oblonga v. oblongo-lanceolata acutiuscula v. acuta, denticulata, mollia, supra sparsim pilosa, 1—2 mm, subtus densius, in margine + dense pilosa, 3—5 mm; caulina 3—5 (—8) sat magna, superiora e basi ovata v. + cordato-ovata longe acuminata v. ovato-lanceolata. Acladium 1,5—5 cm, rami primarii 2—4 saepe ex omni ala exserentes monocephali v. simpliciter ramosi, capitula 3—6 (—10), involucrium denique globosum 12 mm longum, squamae interiores latiusculae, omnes subnigrae anguste diluteque marginatae acutae dense pilosae, 1,5—2 mm, mediocriter breviterque glandulosae sparsim floccosae; pedunculi sat dense pilosi disperse glandulosi canotomentosi.

Sabaudia: Piton du Salève à l'Est de celui de la Tour (Rapin!, Lager); St. Sorlin d'Arves 15—1800 m (Didier).

Tab. 122. *H. salaevense* Rapin ssp. *salaevense* Rap. (e loco classico, leg. Rapin).

1. Squama. 2. Pedunculus sub involucrio. 3. Caulis portio.

79. Hieracium Kernerii Zahn = *humile*—*incisum* Zahn. — [Ausserdorfer! (1876) in litt. ad A. Kerner, Hausmann etc. et in sched.!: Neilreich, Krit. Zusammenstell. Hierac. (1871) p. 47] Zahn, in Koch Syn. (1901) p. 1837; Hierac. d. Schweiz (1906) p. 368; nec N. P.; *H. vulgato*—*pulmonarioides* Ausserd. l. c.; *H. rupicolum* Neilr. l. c. p. p.; *H. humile*—*incisum* Zahn l. c.; *H. squalidum* A.-T., Hierac. Alp. franç. (1888) p. 44 p. p. et in sched.

Caulis 10—30 (—40) cm altus flexuosus sat dense pilosus, 1—3 mm, saepe usque ad basin floccosus. Folia rosularia petiolata ± ovata v. oblonga, basi subcordata v. truncata v. saepissime cito sensimve in petiolum angustata, dentata vel basi grosse dentata, utrimque sat dense breviterque pilosa, 1—2 mm, in margine petioloque densius et saepissime longius pilosa, subglaucescentia dilute v. sordide v. sublutescenti-viridia, in margine glandulis nonnullis minutis obsita; caulina (0—) 1—3 (—4) parva, summa saepe angusta longe acuminata. Inflorescentia furcata, acladium 2—6 cm longum, rami primarii 1—2 (—3), capitula (1—) 2—3 (—7). Involucrium 10—14 mm longum, squamae subangustae acutae ± dense pilosae, 1,5—3 mm, disperse mediocriterve glandulosae, sparsim sat denseve floccosae, pedunculi consimiles, cani. Flores dilute v. saturate lutei, stylus obscurus, ligulae apice glabrae, achenia subatra.

Hab. in consortio *H. humilis* in Delphinatu, Saubaudia, Helvetia, Tirolia. — Flor. Iul.—Aug.

Habitus *H. humilis* v. ut in *H. inciso*, sed minus longe pilosum quam *H. salaevense*. Ab *H. humili* differt capitulis minoribus; tota planta densius pilosa sed multo minus glandulosa.

Dispositio gregum:

a) *Strictipilum* Zahn, in Schinz et Kell., Fl. d. Schweiz (1905) p. 311; Hierac. d. Schw. (1906) p. 369. Habitus *H. humilis*, sed tota planta densius pilosa, capitula minora, pedunculi subcanofloccosi, folia caulina 2—3. — Ssp. *strictipilum* Zahn.

b) *Kernerii* Zahn l. c. Habitus ut in *H. inciso*. Glandulae parum evolutae. Squamae angustae acutae mediocriter sat denseve floccosae, dense breviterque pilosae, tenuiter glandulosae. Folia caulina (0—) 1 (—2). — Ssp. *valoddae* Zahn, *knautiifrons* Zahn, *kerneriforme* Zahn, *lavacense* Murr et Zahn, *abbatisceanum* Dutoit (cfr. Zahn, Hierac. d. Schweiz p. 369, 370).

a) *Strictipilum* Zahn.

Subspecies **strictipilum** Zahn, in Schinz et Kell., Fl. d. Schweiz ed. 2 II (1905) p. 311; Hierac. d. Schweiz (1906) p. 369; *H. squalidum* A.-T. in sched. p. p.; *H. humile* var. *hirsutum* A.-T. in sched. p. p. — Capitula 2—7, involucrium 11—13 mm longum, squamae subnigrae acutiusculae v. acutae, interiores viridi-marginatae, fere effloccosae, pariter ac reliqua planta sat dense albopilosae, 1,5—2,5 mm, mediocriter glandulosae; pedunculi obscuri modice v. sat dense floccosi subglandulosi, caules et folia dispere glandulosa. Folia oblonga v. oblongo-lanceolata tenuiter petiolata basi truncata vel brevius longius attenuata, pariter ac folia caulina (2—3) grosse dentata. Stylus obscurus.

Variat: 1) normale Zahn, Hier. d. Schw. l. c. — Helvetia: Haut de Taney: Entre les deux Scex (Zahn); Creux du Van (Godet); Wildkirchli in m. Saentis (Naegeli); Sils in Engadina superiore (A. et C. Touton).

2) *latisquamum* Zahn l. c. Squamae exteriores angustae, interiores latae, involucrium crassius, pilositas subdensior ad 3 mm longa. — In m. Salève Sabaudiae (Ducommun).

Tab. 123, Fig. A. 1—3. *H. Kernerii* Zahn ssp. *strictipilum* Zahn (legi supra Taney).

1. Squama. 2. Pedunculus sub involucrio. 3. Foliorum margo.

b) *Kernerii* Zahn.

Subspecies **kerneriforme** Zahn, in Schinz et Kell. l. c.; Hierac. d. Schweiz l. c. — Caulis tenuis, usque ad basin floccosus, superne pilosus et glandulis minutissimis obsitus, altefurcatus 2—3 cephalus. Folia rosularia elliptica v. lanceolata, basi valde grosse dentata, utrimque et praecipue in nervo dorsali petioloque sat dense pilosa; folium caulinum 0 v. 1 lanceolatum. Involucria et pedunculi mediocriter tenuiterque pilosa, minute glandulosa et \pm dense floccosa.

Helvetia austro-occidentalis: Col de la Croix supra Gryon (Muret); Mauvoisin (Favrat).

Tab. 123, Fig. B. 4, 5. *H. Kernerii* Zahn ssp. *kerneriforme* Zahn (e iugo Col de la Croix, leg. Muret). 4. Squama. 5. Pedunculus sub involucrio.

Subspecies **lavacense** Murr et Zahn, in Koch Syn. (1901) p. 1837. Caulis 35 cm altus tenuis superne breviter pilosus effloccosus. Folia radicalia numerosa sat longe petiolata ovata v. ovato- v. elliptico- v. triangulariter lanceolata obtusa v. pleraque \pm acuta basi truncata (exteriora interdum subcordata) vel intima (saepe inaequaliter) in petiolum brevius longius attenuata et acutiora, omnia praecipue basin versus inaequaliter grosseque vel lobato-dentata, utrimque disperse breviterque pilosa v. supra fere glabra, in margine sat dense pilosa et sparsim glandulosa, in petiolo albo-subvillosa; caulina 1—2 lanceolata subpetiolata, in nervo dorsali subfloccosa summum saepissime lineare. Acladium 2—5 cm v. ad $\frac{2}{3}$ totius caulis exhibens, rami primarii 1 (—2), capitula 2 (—4). Involucrium 12—13 mm longum denique crasse ovatum, squamae subnigrae acutae sat dense pilosae disperse glandulosae floccosaeque, pedunculi sat dense pilosi subglandulosi disperse floccosi.

Hab. in Tirolia boreali: In iugo Lavatsch prope Hall (det. J. Murr).

Tab. 124. *H. Kernerii* Zahn ssp. *lavacense* Murr et Zahn (e loco class., leg. J. Murr).

1. Dentes ligularum. 2. Squama. 3. Pedunculus sub involucrio. 4. Nervus dorsalis foliorum. 5. Margo foliorum.

Subspecies **abbatiscellanum** Dutoit, apud Zahn in Koch Synops. (1901) p. 1838, Hierac. d. Schw. (1906) p. 370; *H. lacerum*—*senile* Zahn l. c. Caulis 15—20 cm altus valde flexuosus, saepissime haud foliatus, usque ad basin floccosus et pilis albis 1—3 mm longis subpilosus. Folia rosularia 4—8 sordide viridia, exteriora minora elliptica v. obovata dentata, interiora ovato-lanceolata vel angustiora acuminata, basi lobato-dentata subpinnatifida, dentibus saepe in petiolum descendentibus, utrimque subrigidiuscule pilosa, in margine nervoque dorsali pariter ac in petiolo subvillosa, 3 mm, et glandulis subnullis obsita. Acladium 2 cm v. ad $\frac{1}{2}$ totius caulis exhibens, rami primarii 1—2, capitula 2—3. Involucrum 9—10 mm longum, squamae angustissimae acutae mediocriter v. sat dense pilosae, 1—2 mm, disperse glandulosae. Pedunculi consimiles.

Helvetia orientalis: Inter alpem Meglisalp et montem Saentis, 16—1700 m, Abbatiscellae (Dutoit); in declivitatibus Pischavallis Heutal Berninae (Ruebel et Braun).

Hieracio senili A. Kerner haud dissimile et sine dubio intermedium inter *H. incisum* (vel *psammogenes*) et *H. lacerum*, quocum crescit.

Tab. 125, Fig. A. 1—3. *H. Kernerii* Zahn ssp. *abbatiscellanum* Dutoit (e m. Saentis, leg. Dutoit). 1. Squama. 2. Pedunculus sub involucri. 3. Caulis portio.

Subspecies **raccolanae** Zahn in litt. et apud Benz, in Oesterr. bot. Zeitschr. (1904) no. 7 (sub *H. inciso*). Caulis 15—35 cm altus flexuosus gracilis, superne subpilosus et sat dense floccosus, basin versus densius longiusque pilosus, pilis 2,5—4,5 mm longis \pm patentibus, fere effloccosus \pm violaceus. Folia rosularia subnumerosa brevius longiusve petiolata ovato-lanceolata v. lanceolata utrimque attenuata \pm acuminata, denticulata v. grosse dentata, exteriora minora latiora minus acuta obtusave, omnia utrimque subpilosa, in margine nervoque dorsali pariter ac in petiolo pilis 2,5—4,5 mm longis sat dense pilosa et glandulis parum numerosis minutis obsita; caulina 1—2 (—3), inferius lanceolatum irregulariter grosseque dentatum longe acuminatum, reliqua lineari-lanceolata v. linearia saepe integerrima longius acuminata. Inflorescentia furcata, acladium 4—10 cm longum, rami primarii 1—2 (—3) erecti v. inferiores 1—2 oblique patentes, ordines axium 2—3, capitula (1—) 3—7 (—10). Involucrum 10—12,5 mm longum globoso-ovatum, squamae subangustae longe acuminatae acutae obscurae anguste viridi-marginatae subfloccosae subpilosae, 2—3 mm, disperse glandulosae. Pedunculi dense floccosi subpilosi superne disperse glandulosi. Flores sat magni lutei.

Carinthia: In iugo Ploeken (R. de Benz); Italia superior: in valle Raccolana pr. Chiusaforte (Pospichal).

Tab. 125, Fig. B. 4, 5. *H. Kernerii* Zahn ssp. *raccolanae* Zahn (e valle Raccolana, leg. Pospichal). 4. Squama. 5. Pedunculus sub involucri.

80. Hieracium Braunianum Chen. et Zahn, in Chenevard et Braun, Contrib. fl. Tessin (Annuaire jard. bot. Genève 1905) p. 52 et in Zahn, Hierac. d. Schw. (1906) p. 370; = **humile**—**subspeciosum** Zahn l. c.

Caulis 10—30 cm altus tenuis v. gracilis inferne violaceus. Folia rosularia subnumerosa brevius longiusve petiolata late angustave lanceolata, utrimque breviter longeve attenuata, acutiuscula v. acuta, dentata v. serrato-dentata, subglaucescentia dilute v. sordide viridia saepe sublutescentia; caulina 2—7 lanceolata v. superiora linearia, infima basi angustata sessilia, superiora basi aequilata v. rotundata sessilia. Inflorescentia furcata. Acladium c. 5—7 cm longum, rami primarii 0—3 valde remoti monocephali v. simpliciter ramosi,

capitula 1—2 (—5 (—7), involucrium 10—11 mm longum crassum ovatum denique late depressum, squamae subangustae acuminatae acutiusculae et acutae, exteriores angustiores, omnes subatrae, exteriores in margine subcanofloccosae, interiores viridi-marginatae. Bractee 2—5. Pili in involucrio subnumerosi 1—1,5 mm longi, in pedunculis subnumerosi v. dispersi, caulis disperse v. modice v. inferne dense pilosus, 1—2 mm, folia supra epilosa v. subpilosa, in margine subtusque densius pilosa. Glandulae in involucrio dispersae v. mediocriter numerosae, in pedunculis sparsae, in caule subnullae, in foliorum margine nervoque dorsali sparsae minutissimae. Flocci in involucrio mediocriter numerosi v. (in squamarum marginibus) densissimi, pedunculi superne can, caulis usque ad basin deminute floccosus. Flores saturate lutei, ligulae apice glabrae v. inconspicue ciliatae, stylus luteus, achaenia obscure brunnea.

Habitat in Pedemontio, in Helvetia australi et orientali. — Flor. Iul.-Aug.

Subspecies **Braunianum** Chen. et Zahn l. c. Folia rosularia exteriora minora saepe obovata, interiora magna (ad 15 cm longa) late, intima anguste lanceolata, omnia in petiolum brevem late alatum sensim angustata, caulina anguste lanceolata v. linearia valde elongata acutissima in nervo dorsali subfloccosa; omnia dilute viridia subglaucescentia grosse serratodentata supra ± glabra. Bractee 2—3 subulatae. Squamae (ut pedunculi) subglandulosae, glandulis sat magnis obscuris, in margine subcanotomentosae. Caulis disperse pilosus, folia in nervo dorsali pilis ad 3 mm longis submolliibus obsita. Ligulae apice glabrae.

Helvetia australis: In alpe Robiei 1800 m et in valle Peccia: Inter La Corte almetto et alpem Zotta 19—2000 m (J. Braun).

Haec subspecies verosimiliter intermedia est inter *H. humile* et *H. subspeciosum* ssp. *patulum* N. P.

Tab. 126. *H. Braunianum* Chen. et Zahn (e valle Peccia, leg. Braun). 1. Squama. 2. Pedunculus sub involucrio. 3. Dentes ligularum. 4. Foliorum margo.

In Hierac. d. Schweiz p. 371 et 372 duas alias subspecies descripsi: Ssp. **lillense** Zahn et ssp. **Ruebelianum** Zahn. Prima habitu *H. inclinati* Arv.-T. pilositatem *H. humilis* prae se fert et *H. Gremlii* Arv.-Touvet facile in mentem revocat, sed ab hac subspecie totius plantae pilis brevibus et foliis in margine nervoque dorsali disperse minuteque glandulosis differt. Habitat inter Lillaz et Crêt 17—2000 m in valle Cogne Pedemontii (Vaccari). — Secunda subspecies *Ruebelianum* habitu *H. oxyodontis* Fries rupes calcareas m. Piz Alv 2300 m Berninae in consortio *H. laceri* Reuter inhabitat, quo ex loco cl. Schroeter et Ruebel exemplaria nonnulla una cum numerosiore messe *H. laceri* et *oxyodontis* apportaverunt. Ab *H. oxyodonti* praecipue foliis in margine nervoque dorsali pariter ac in petiolis glandulis subnullis minutis praeditis differt.

81. Hieracium lانسicum A.-T. et Ravaut 1873, Monogr. (1873) p. 37: Hierac. alp. franç. (1888) p. 58; N. P., Hierac. Mittel-Europ. II (1886—1889) p. 319; *H. Jacquini*—*andryaloides* A.-T. l. c.; *H. Lanseanum* A.-T., Essai Suppl. (1872) p. 12; = **lanatum** > **humile** Zahn; *tomentosum* > **humile** N. P. l. c.

Phyllopodum, v. hypophyllopodum canoviride, ubique laxe sublanato-pilosum. Caulis 20—40 cm altus erectus crassiusculus flexuosus distincte striatus saepe usque ad basin ramosus. Folia radicalia florendi tempore emarcida v. 1—3 evoluta longe petiolata ovata v. elliptica v. oblonga basi subtruncata v. saepius in petiolum angustata, basin ± grosse

irregulariterque dentata v. sinuato-lobata, dentibus mucronatis, apicem versus tantum denticulata, obtusa v. breviter acuta, tenuia, lutescenti-viridia; caulina 2—5 sensim decrescentia ± remota, infima alato-subpetiolata oblonga v. oblongo-lanceolata v. triangulariter lanceolata, media basi angustata sessilia v. e basi ovata oblonga v. ovato-lanceolata brevius longiusve acuminata, omnia sat magna irregulariter serrato-dentata sublobata, summa lanceolata v. linearia acuta, in bracteas inflorescentiae decrescentia. Inflorescentia altefurcata v. laxe paniculata indeterminata, acladium 3,5—6 cm ($-\frac{1}{2}$ totius caulis) exhibens, rami primarii 1—5 ($-\frac{1}{2}$) remoti crassiusculi oblique erecti v. oblique patentes saepe flexuosi, ordines axium 3, capitula (1—) 3—10 ($-\frac{1}{2}$). Involucrum 13—14 mm longum sat magnum globosum, squamae latae lanceolatae acutiusculae subatrae viridi-submarginatae, exteriores obtusiusculae saepe in bracteas descendentes. Pili plumosi diluti molles, in involucrio densissimi 2—2,5 mm longi, caulomata ± dense pilosa, 1—1,5 mm, folia utrimque dense pilosa, 1,5—2 mm, in nervo dorsali petioloque etiam densius pilosa, 3—4 mm. Glandulae in involucrio dispersae, in pedunculis dispersae v. subnullae, folia praecipue in margine petioloque glandulis minutis aegre observandis praedita. Flocci in involucrio foliisque nulli, caulomata superne tomentosa, deorsum sensim deminute floccosa. Flores lutei, dentes ligularum ciliati, stylus initio subluteus denique ± obscurus, achaenia subatra.

In rupibus calcareis et molassicis Delphinatus. — Flor. Iul.

Variat: α) **genuinum** A.-T., Hierac. alp. franç. (1888) p. 58. Phyllopodium, folia caulina minus numerosa, squamae obtusiusculae v. subacutae, caulis humilior densius pilosus.

β) **anserinum** Ravaud, apud A.-T., Monogr. (1873) p. 37; N. P., Hierac. Mitteleurop. II (1886—1889) p. 330; *H. Liottardi* Ravaud, Bull. Soc. bot. Fr. VII p. 741, sec. A.-T. l. c.; *H. sabaudum*—*andryaloides* ? A.-T. l. c.; *H. tomentosum*—*sabaudum* N. P. l. c. Hypophyllopodium, folia caulina numerosiora, squamae exteriores obtusiores, caulis elatior minus dense pilosus.

Inter Villard-de-Lans et Die: à Bréduire, sur les rochers de la Cascade; sur les flancs de la Roche-Pointue (Ravaud); rochers sur les bords de la Bourne; in rupibus molassicis prope Bard et Les Gorges, haud procul ab introitu ad Grands-Goulets; Col de l'Arc (A.-T.); Col de Braus (Herb. Univers. Lausanne); rochers de la scierie, route de Corrençon près Villard-de-Lans (Neyra).

Annotatio: Var. *B. daronicoides* A.-T., Monogr. p. 37; N. P. l. c. p. 319, foliis caulinis inferioribus mediisque petiolatis tenuibus mollissimis, est forma varietatis α ab A.-T. postea nullo loco commemorata. At contra hic auctor nomen *H. daronicoides*, in Hierac. nouv. Fr. Esp., Bull. Soc. bot. Fr. XLI (1894) p. 340, Hieracieth. Gallic. 181—187, speciei omnino diversae pyrenaicae ex affinitate *H. cerinthoidis* L. imposuit.

Exsiccata: Soc. franco-hévet. (1898) no. 868 (Chemin de Corrençon, leg. Nerya!).

Tab. 127. *H. lansicum* A.-T. (pr. Villard-de-Lans, leg. A.-T.). 1. Squama. 2. Pedunculus sub involucrio. 3. Pilus foliorum.

Annotatio: Existunt praeter *H. lansicum* etiam duae species inter *H. humile* et *H. lanatum* intermediae: 1) **H. Kochianum** Jord. = **humile** > **lanatum** iam in Reichb. Ic. XIX. 1 depictum, 2) **H. Reboudianum** A.-T., Suppl. à Monogr. (1876) p. 12; Hieracieth. Gall. no. 84!; Soc. franco-hévet. no. 864!; = **andryaloides**—**humile** [Delphinatus: Sisteron (Basses-Alpes, leg. Loret); les Goulets aux Echevis dans les gorges de la Bourne (A.-T.); St.-Paul de Varcès, près du sentier du Col de l'Arc (Neyra); etc.]. Hae duae species habitu

H. humus, praecipue indumento, in *H. Reboudiano* more *H. andryaloidis* tomentoso denso 1 mm tantum longo, in *H. Kochiano* laxissime pellito-piloso 2—3 mm longo, differunt.

Sectio XI. **Alpina** [Fries, Epicr. (1862) p. 42; Griseb., Comm. p. 28 p. p.; A.-T., Hierac. alp. franç. p. 41; Burnat et Gremli, Hierac. alp. mar. p. 17; Zahn, in Koch Syn. (1901) p. 1839; Hierac. d. Schw. (1906) p. 14; Stirps *H. pseudocerinthoidea* s. *H. alpini* Fr., Symb. (1848) p. 69; *Pseudocerinthoidea Alpina* A.-T., Essai classif. p. 7]. — Folia viridia v. sordide v. obscure viridia pilosa et glandulosa haud viscosa. Caulis simplex scapiformis v. profunde furcato-ramosus oligocephalus; folia caulina haud amplexicaulia, radicalia sensim in petiolum ± late alatum angustata saepissime elongata spathulataque. Involucrum plerumque ± magnum ± dense longeque pilosum, squamae saepe ± obtusiusculae. Dentes ligularum pilosi v. ciliati. Alveoli in margine dentati. Stylus luteus rarissime subobscurus. Rhizoma haud lanato-comosum.

82. Hieracium alpinum L., Spec. plant. ed. 1 (1753) p. 800; ed. 2 (1763) p. 1124. Vill., Hist. pl. Dauph. III (1789) p. 103; Monnier, Essai (1829) p. 59; Froel., in DC. Prodr. VII (1838) p. 208; Tausch, in Flora (1828), Erg.-Bl. I p. 63; Koch, Syn. ed. 2 (1844) p. 525; Fries, Symb. (1848) p. 69; Griseb., Comm. (1852) p. 28; Godr. Gren., Fl. Fr. II (1850) p. 363; Fries, Epicr. (1862) p. 42; Arv.-T., Hierac. alp. franç. (1888) p. 42; Zahn, in Koch Syn. (1901) p. 1839. Hierac. d. Schw. (1906) p. 373; *H. pumilum* Hoppe, apud Willd., Sp. pl. III (1804) p. 1562; Sturm, Heft 37, tab. 4; nec. Lapeyr., Hist. pl. Pyrén. (1813) p. 469.

Per zonam arcticam et subarcticam Europae, Asiae, et Americae, in montibus subalpinis Scandinaviae, Britanniae, Silesiae, Transsilvaniae et per omnium Alpium tractum Europae centralis, in Vogesis et in m. Bructero. — In Pyrenaeis, in albis Haemi et in Caucaso adhuc haud inventum. — Flor. Iul. Aug.

Dispositio gregum (Europae centralis):

- 1) Folia omnino *effloccosa* vel caulina superiora in margine nervoque dorsali tantum floccis pedunculatis apice stellatis parum numerosis obsita.
 - a) *Alpinum* Zahn, in Koch Syn. (1901) p. 1840. Folia rosularia obovata v. oblongo-lanceolata ± obtusa, interiora v. interdum omnia lanceolata v. linearia spathulata v. linearia valde elongata, omnia saepissime *integerrima*. Stylus semper luteus. — Ssp. *alpinum*, *gymnodon*, *nigrosetosum*, *melanocephalum*, grande.
 - b) *Tubulosum* Zahn l. c. p. 1841. Folia *gramineo-viridia* spathulata late v. anguste lanceolata ± elongata basin versus in petiolum saepissime latissime alatum sensim angustata, *denticulata rarissime dentata*. Stylus luteus v. saepius subobscurus. Planta robusta in Sudetis endemica. — Ssp. *tubulosum*.
 - c) *Halleri* Zahn l. c. p. 1841. Folia anguste lanceolata v. lanceolata saepe elongata aequilata, vel oblongo-lanceolata v. spathulata, saepissime ± *irregulariter grosse dentata*. Stylus luteus v. subobscurus. Plantae saepe robustae. — Ssp. *Halleri*, *calenduliflorum*.
 - 1* Folia in margine nervoque dorsali, caulina etiam in tota parte aversa vel utrimque distincte floccosa.
 - d) *Pseudofritzei* Zahn. Folia *gramineo-viridia* lanceolata denticulata; caulina ovato-lanceolata vel lanceolata. Stylus luteus v. subobscurus. — Ssp. *pseudofritzei*.
 - a) *Alpinum* Zahn.

Subspecies **alpinum** (L. l. c.). Caulis subtenuis v. gracilis 5—20 cm altus. Folia rosularia saepissime *integerrima* v. inconspicue denticulata. Involucrum *ovatum* v. *globoso-ovatum*, initio saepe basi turbinatum minus 15 mm longum, ligulis elongatis florendi tempore

discum planum formantibus, squamis subnumerosis. Glandulae in tota planta saepissime breves. Ligulae apice pilosae.

Variat: *αgenuinum, involucris globoso-ovatis ad 15 mm longis, caulibus elatioribus gracilibus plerumque 1—2 (—3) foliatis.*

1) normale Zahn, Hierac. d. Schw. (1906) p. 374; indumento canescenti (pilis basi tantum atris).

a) *vulgare* Tausch, in Flora (1828), Erg.-Bl. I p. 63; foliis intergerrimis obovato- v. ovato-spathulatis haud ita longe petiolatis. — In Sudetis, in montibus Carpatho-Transsilvanicis et in Alpibus haud infrequens.

b) *angustifolium* Tausch l. c.; foliis integerrimis lanceolato- v. lineari-spathulatis saepe longe longissimeve petiolatis. — Praecipue in Sudetis et in montibus Carpatho-Transsilvanicis.

c) *squamosum* Tausch l. c.; scapis superne bracteis linearibus foliosis dense obsitis. — In summis pratis montium Riesengebirge (Tausch!).

d) *subfoliosum* Zahn, in Koch Syn. (1901) p. 1840; foliis caulinis saepe ad 3 evolutis saepe subdenticulatis maioribus, squamis externis haud raro ± foliaceis, foliis radicalibus saepe florendi tempore partim emarcidis. — Locis ± dense graminosis Alpium.

2) villosissimum Tausch l. c. (1828); *albovillosum* Froel., in DC., Prodr. VII (1838) p. 208; *H. alpinum* v. *barbatum* Wahlbg., Fl. Carp. no. 784 (1814) p. p. ? ; *H. holosericeum* Backh., Mon. Brit. Hierac. (1856) p. 19. Indumento pilis longis albo-sericeis ± permixto v. pilis albo-sericeis praevalentibus, foliis plerumque integerrimis.

a) *albovillosum* Froel. l. c.; foliis ovato- v. lanceolato-spathulatis, squamis dense pilosis, exterioribus obtusiusculis, interioribus acutis. — In Sudetis orientalibus, in montibus Tatra, in Vogesis Alpibusque. Etiam in montibus Britanniae, Scandinaviae et in Rossia arctica usque ad Sibiriam.

b) *pseudocapnoides* Zahn, in Koch Syn. (1901) p. 1840; foliis longissimis anguste lanceolatis apice ± spathulatis, squamis longe acuminatis acutis v. acutissimis, caulibus robustioribus, involucris crasse globoso-ovatis saepe plus 15 mm longis pariter ac caules dense longeque albo-villosis. — In Alpibus tantum obvium: Val Avers, Val Fex, Val Zeznina, Piz Lagalp et in iugo Spluegen Helvetiae orientalis (Kaeser, Touton, Bernoulli, Schroeter, Zahn); Tirolia: Tristen pr. Weissenbach 2400 m (Treffer); Salisburgia: Tweng 1400 m (Fest); Helvetia occidentalis: Grd. St.-Bernard 2200 m (Besse); Italia borealis: Macugnaga (Chenevard).

3) subpilosum Zahn; indumento abbreviato multo minus denso vel (in foliis) subnullo.

a) *brevipilum* Zahn, pilis ubique brevibus in caule superne dispersis, capitulis haud villosis, squamis inter pilos laxos conspicue glandulosis. — In m. Babia Gora (de Degen) et in montibus Carpatho-Transsilvanicis.

- b) *calvifolium* Zahn, foliis subviridibus epilosis (sed ubique tenuiter glandulosis!) in margine nervoque dorsali subciliatis, capitulis breviter subvillosis. — Transsilvania: In m. Vurfu Pelaga (Retyezat), leg. A. de Degen; in m. Zeyritzkampel pr. Kalwang, Stiriae sup. (de Benz).
- 4) *tubuliflorum* Zahn, Hier. d. Schw. (1906) p. 375; *tubulosum* Auct., nec Tausch. Plantae elatae vel humiles, floribus ± tubulosis.
- a) *verum*, ligulis elongatis semitubulosis v. tubulosis, stylis fere inexasertis. — In Alpibus Helvetiae et Tiroliae haud ita rarum.
- b) *stylosum* G. Schneid., Oesterr. bot. Zeitschr. (1887) p. 199; *H. alpinum* v. *tubulosum* Schleich. in sched. et Gaudin, Fl. Helv. V p. 67; ligulis tubulosis abbreviatis, stylis longe ex tubo exsertis. — Helvetia: Gorges d'Alesse (Schleich.); in m. Koppenplan Sudetorum et in valle Kupferschaechten superiore Tatrae (G. Schneider). Forma rarissima esse videtur.
- β) *pumilum* Hoppe, apud Willd., Sp. pl. III (1804) p. 1562; Hoppe Exs.; Sturm, Heft 37 tab. 4 [nec Jacq., Fl. Austr. II (1775) p. 53, tab. 189 = *H. humile* Jacq. 1776]. Involucris ovatis minoribus, caulibus humilibus subtenuibusque plerumque haud foliatis. — Formae pascuorum aridorum v. altissimorum.
- 1) normale, indumento canescente v. dilutiore.
- a) *verum*, foliis sat parvis obovato- v. oblongo-spathulatis saepe uno alterove dente ± distincto munitis. — Helvetia, Tirolia, Algovia, Salisburgia, Carinthia, Stiria, in Sudetis et in Alpibus Carpatho-Transsilvanicis.
- b) *canescens* Froel., in DC. Prodr. VII (1838) p. 208; *gracilentum* A.-T., Hier. Alp. franç. (1888) p. 42; nec Backh., Mon. Brit. Hierac. (1856) p. 19 et Fries, Epicr. (1862) p. 44; var. *pseudopiliferum* A.-T. in sched. Pauca cm tantum altum, folia ± linearia dense pilosa, indumentum saepe dilutum, habitus haud raro ut in *H. pilifero*. — In summis iugis Alpium.
- c) *brevipilum*, indumento abbreviato minus denso v. (in foliis exterioribus) subnullo. — In Alpibus Carpatho-Transsilvanicis et Stiriae superioris.
- Formas tubulosas et stylosas vide sub α 4.
- 2) *setulosum* G. Schneid. l. c. Pilis in involucro cauleque nigrosetosis ubique 0,5—1 mm tantum longis, caule superne nigroglanduloso, squamis atris. — In montibus Riesengebirge: Schneekoppe, Weisse Wiese, Grosser Kessel (G. Schneider).

Subspecies ***gymnodon*** Zahn, nov. ssp. — Caulis 10—12 cm altus subtenuis flexuosus distincte striatus, pilis canescentibus basi atris 2—3 mm longis subdensis, glandulis subnumerosis tenellis sat brevibus brevissimis intermixtis, apicem versus floccis subdensis v. densis deorsum subeito deminutis basin versus dispersis obsitis, monocephalus. Folia radicalia numerosa rigidiuscula *gramineo-viridia*, mediocriter, marginem versus densius pilosa, pilis rigidiusculis 2—3 (—4) mm longis, ubique mediocriter subtiliterque glandulosa effloccosa, omnia denticulata, dentibus subnumerosis, exteriora lanceolato-spathulata obtusa,

pleraque lanceolata v. anguste lanceolata in petiolum late v. latissime alatum sensim attenuata apice subacuta v. acuta saepe \pm plicata; caulina 1—3 anguste lanceolata denticulata v. summa linearia subintegerrima in margine subfloccosa. Involucrum ovatum 10,5—12 mm longum, squamae obscurae subangustae, acutae v. interiores acutissimae, apice haud barbulate, glandulis brevibus numerosis pilisque satis densis ad 2 mm longis obsitae haud villosae effloccosae. Ligulae partim subtubulosae partim evolutae dilute luteae apicem versus parum pilosae, dentibus haud pilosis, plerumque tantum granulatis, rarissime subciliatis. Stylus luteus, achaenia castanea.

Hab. locis graminosis m. Huehnerkar pr. Wald Stiriae superioris, leg. E. Khek.

Verosimiliter inter ssp. *alpinum* et ssp. *pseudofritzei* intermedium, sed ligularum dentibus fere glabris insigne.

Subspecies **nigrosetosum** G. Schneid., Oest. bot. Zeitschr. (1887) p. 199; Hier. d. Westsudeteten [in „Das Riesengebirge in Wort und Bild“, Heft 38 et 39 (1891)] p. 33 et in Sag. et Schneid., Fl. Centralkarpath. (1891) II p. 324. Habitus et characteres principales ut in ssp. *alpino*, sed indumento obscuriore et foliis \pm dentatis differt. Caulis rectus, sursum setis longis nigris \pm copiosis indumento villosio immixtis, basin versus pilis obscuris basi atris obsitus, apice praeter glandulas breves glandulis dispersis maioribus adpersus. Folia basilaria spathulata \pm dentata, caulina 2—3 saepe basin versus dentata. Squamae aterrimae. Ligulae apice pilosae.

Hab. in m. Brunnberg Sudetorum 1450 m (Schneider) et in montibus Tatra: Polnische Fünfseen (Sagorski).

Verosimiliter inter ssp. *alpinum* et *H. Fritzei* ssp. *spathulifolioides* Zahn (*spathulifolium* G. Schneid., Oestr. bot. Zeitschr. 1887 p. 274, nec Vukot.) intermedium.

Subspecies **melanocephalum** Tausch, in Flora (1828) Erg.-Bl. I p. 63; ibidem (1837) Erg.-Bl. I p. 67; *H. alpinum* var. *nigricans* et *Hulleri* Tausch l. c.; var. *macrocephalum* Tsch. Exs.! *H. atricapillum* Hoppe, apud Tsch. l. c.; *H. Czerecianum* Baumg., Enum. Transsilv. III (1816) p. 20 apud Neilr., Krit. Zus. Hierac. (1871) p. 40. Caulis ad 30 cm altus saepe rectus crassiusculus raro gracilis v. humilis. Folia rosularia saepe dentata v. denticulata, caulina 1—3, superiora saepe parva. Involucra 14—18 mm longa globosa v. ventricosa denique saepe ate depressa et basi truncata, squamae numerosae, ligulae haud elongatae numerosissimae saepe paulo breviores v. paulo longiores quam involucrum, florendi tempore discum excavatum formantes. Ligulae apice pilosae.

Hab. in Alpibus Helveticis, Bavaricis, Austriacis, in Sudetis et in montibus Carpatho-Transsilvanicis, in m. Bructero.

Variat: $\alphagenuinum, folii spaucidenticulatis vel paucidentatis v. integerrimis, caulinis integerrimis.$

1) normale G. Schneid., Oester. bot. Zeitschr. (1887) p. 199. Indumento canescenti, setis nigris saepe permixto.

a) *angustifolium*, foliis anguste lanceolatis apice spathulatis saepissime elongatis in petiolum longissime angustatis, plerumque sat dense pilosis. — Rhaetia: In iugo Spluegen (Zahn), Engadina: Albula, Val Bevers, Muottas Muraigl (Candr.), Val Zeznina 2300 m (Bernoulli); Tirolia: Riedberg et Platzerberg pr. Gossensass (Murr, Oborny), inter iuga Sella et Rodella (Tout.); Stiria: Turracher Höhe, Diesingsee

(Fest), Hühnerkar pr. Wald (Khek), Voistaler Hütte 1700 m in m. Hochschwab (Nevole); frequenter in Sudetis et in montibus Carpatho-Transsilvanicis.

- b) *spathulatum*, foliis obovato- v. oblongo-spathulatis in petiolum \pm cito angustatis, exterioribus saepe calvescentibus. — Helvetia, Tirolia borealis et australis, Stiria, Bavaria australis, Salisburgia, Carinthia, a Silesia usque ad Transsilvaniam.

Interdum humile, caule subunifolio, sed involucris late depressis, floribus haud elongatis a formis var. *pumili* distinguitur.

- c) *squamosum*, caule sursum squamis subnumeris linearibus \pm foliaceis obsito. — In m. Babia gora (de Degen) et in montibus Riesengebirge (Tausch!).

- 2) *sericeum* G. Schneid. l. c. Indumento pilis albo-sericeis permixto v. pilis albosericeis praevalentibus, involucro 16—17 mm longo. — Tatra: Kriván, Késmarker Gruensee, Grosses Kohlbachtal (Sagorski), in Sudetis 13—1550 m et in Stiria superiore. In Alpis Rhaeticis haud typicum.

- 3) *pilosissimum* Zahn. Involucro dense obscureque villosa, caule densissime, superne obscure piloso, pilis 5—8 mm longis. — In m. Bructero.

- 4) *brevipilum*, indumento abbreviato saepe minus denso.

- a) *verum*, pilis subnumeris brevibus mollioribusque. — Cum forma principali.

- b) *nivale* Velen., Oestr. bot. Zeitschr. (1883) p. 388; G. Schneid., Hierac. Westsud. l. c. p. 32; *setulosum* G. Schneid., Oestr. bot. Zeitschr. (1887) p. 199. Pili 0,5—1 mm longi nigrosetosi, involucrum 17—18 mm longum, squamis atris. — In Sudetis: Supra Grosse Schneegrube, Weisse Wiese, Schneekoppe (G. Schneider).

- c) *calvescens*, foliis epilosis v. praecipue interioribus subciliatis, caule brevipilo, involucris breviter subvillosis. — Babia gora et in m. Galațiu pr. Rodna Transsilvaniae (de Degen).

- 5) *tubuliferum*, ligulis tubulosis.

- a) *tubulosum*, stylis non v. paulum ex tubo exsertis. — Helvetia orient: p. e. in iugo Spluegen (Zahn); Tirolia: in m. Platzerberg p. Gossensass (Murr) etc.; Stiria sup.: Trattenbauernalpe pr. Krakau-ebene (Fest). — Haec forma quasi intermedia inter ssp. *alpinum* et ssp. *Halleri* est.

- b) *stylosum* G. Schneid., Hierac. Westsudeten l. c.; Wimm. et Grab. ex p. Involucrum ca. 15 mm longum, styli longe ex tubo exserti. — Adhuc in Sudetis tantum observatum: Koppenplan, Langer Grund 1200 m (G. Schneid.).

- β) *aterrimum* G. Schneid., Oesterr. bot. Zeitschr. (1887) p. 200. Indumento obscuro, setis nigris permixto, in involucris denso. Caulis apice glandulis maioribus adspersus et dense pilosus, usque ad basin pilis basi atris obsitus. Folia saepe dentata. Squamae aterrimae. — In Sudetis: Brunnberg, Ziegen-

rücken, Seiffenberg (G. Schneid.); Tatra: infra lacum Késmarker Gruensee (Sagorski).

γ) **intermedium** A.-T., apud Murr, Deutsche bot. Monatsschr. (1897) p. 272; Zahn, Hierac. d. Schw. (1906) p. 376. Folia rosularia lanceolata v. angustiora saepe ± aequilata v. basin versus in petiolum latissime alatum angustata, denticulata v. dentata; caulina 1—3, inferiora elongata. Involucrum crassum haud ita dense pilosum, squamis latiusculis. Caulis 25—30 cm altus, superne glandulis maioribus obsitus.

1) normale, ligulis evolutis. — Helvetia: St.-Bernhard, Val Piora, Bernhardin, Oberalp, Val Avers, Val Fex, in valle Weisstannen; Tirolia: In m. Gavardina vallis di Ledro (Porta) etc.

2) subtubulosum, ligulis tubulosis v. semitubulosis. — Cum forma normali.

Haec variatio transitum inter ssp. *melanocephalum* et ssp. *Halleri* sistit et interdum a ssp. *Halleri* formis ligulis ligulatis praeditis aegre separanda est.

Tab. 129, Fig. A. 1—4. *H. alpinum* L. ssp. *melanocephalum* Tsch. (e m. Kiesberg Sudetorum, leg. Sagorski). 1. Dentes ligularum. 2. Squama. 3. Pedunculus sub involucri. 4. Foliorum margo.

Subspecies **grande** Wimm., Fl. v. Schlesien ed. 3 (1857) p. 306; *H. alpinum* var. Wimm. l. c. Caulis 20—30 cm altus crassiusculus, plerumque rectus, dense longeque pilosus, indumento canescenti, praecipue apicem versus glandulis subnumeris setisque nigris basi crassis immixtis, monocephalus. Folia rosularia sat magna ad 1,5 cm longa, numerosa, subviridia, lanceolata v. spatulata v. lingulata, obtusa v. acuta, denticulata v. dentata, interdum dentibus nonnullis grossis munita, rarius integerrima, mediocriter sat denseve pilosa minuteque glandulosa, rigidiuscula; caulina 2—4 (rarissime ad 7) lanceolato-spatulata v. linearia subpetiolata v. basi angustata sessilia saepe denticulata, summum plerumque bracteiforme. Involucrum 17—18 (—19) mm longum magnum semiglobosum denique late depressum basi saepe truncatum, squamis lanceolatis obtusiusculis plerumque acutis v. (intimis) acutissimis dense pilosis tenuiter glandulosis effloccosis, ligulis lingulatis apice breviter pilosis.

Adhuc in Sudetis occidentalibus et in m. Isergebirge tantum inventum, (800—) 1250—1450 (—1605) m.

Variat: 1) normale G. Schneid., Oesterr. bot. Zeitschr. (1887) p. 201, indumento canescenti, pilis basi tantum atris.

a) *verum*, indumento elongato. — Riesengebirge etc.

b) *brevipilum*, indumento in involucri caulibusque abbreviato. — Wiesenbaude (A. Schultz).

2) *sericeum* G. Schneid. l. c., indumento ± albosericeo. — Seiffenberg, Koppenplan, Kiesberg.

Haec subspecies exacte inter ssp. *melanocephalum* et ssp. *calenduliflorum* intermedia est.

b) Tubulosum Zahn.

Subspecies **tubulosum** Tausch, in Flora (1828) Erg.-Bl. I p. 63; ibidem (1837) Beibl. p. 68; nec Gaudin; *H. alpinum* γ) inapertum Wimm., Fl. Schles. ed. 2; *H. hebetatum* Wimm. ex p. Caulis (8—) 15—25 (—40) cm altus crassiusculus v. crassus erectus v. subascendens ± distincte v. subanguloso-striatus, ubique dense pilosus, pilis ± canescentibus v. dilutioribus 3—6 (—8) mm longis, apicem caulis versus basi crassiuscula nigris, rarius

± calrescens, superne dense v. mediocriter longeque glandulosus et densissime floccosus, deorsum usque ad basin subglandulosus subfloccosusque. Folia gramineo-viridia submollia, utrimque et praecipue in margine sat dense pilosa, pilis mollibus basi incrassatis 2—3 mm longis, mediocriter tenuiterque glandulosa, radicalia ± numerosa, exteriora plerumque emarcida obovata, in petiolum late alatum sensim angustata, interiora spathulato- v. late v. anguste lanceolata late longeque alato-petiolata v. sensim attenuata breviter petiolata, apice obtusa saepe plicata mucronata, raro lineari-lanceolata acuta, inconspicue subsinuato- v. undulato-sinuato-, raro profundius dentata v. dentibus nonnullis grossioribus praedita: caulina (1—) 2—3 (—5) plerumque oblongo- v. lineari-lanceolata, basin versus angustata sessilia denticulata v. dentata, summa saepius integerrima. Inflorescentia plerumque monocephala, interdum furcata 2— (rarissime 3—) cephalis, ramis 1—2 erectis v. subarcuato-erectis dense pilosis mediocriter glandulosis superne dense, inferne mediocriter floccosis monocephalis, e foliorum caulinarum alis exserentibus. Involucrum (13—) 15—16 (—19) mm longum ovatum v. semiglobosum denique late depressum basi saepe ± truncatum, dense pilosum, pilis basi nigris apice canescentibus 3—6 mm longis, mediocriter minuteque glandulosum, effloccosum; squamae heteromorphae, latae v. latiusculae apice ± barbulate, exteriores obtusae v. acutiusculae obscurae v. atrovirides haud marginatae, interdum foliaceae virides, interiores acutiusculae v. acutae, v. dilute virides late diluteque viridi-marginatae, vel obscurae. Flores aureo-lutei, ligulae plerumque involutae tubuliformes, dentibus longe pilosis. Stylus luteus v. ± obscurus. Achaenia subatra.

Hucusque in Sudetis tantum inventum.

Variat: 1) normale G. Schneid., Hier. d. Westsudeten I. c. Heft 41 et 42 p. 21 (1891), indumento canescenti longo.

a) *verum*, foliis radicalibus interioribus oblongo- vel lineari-lanceolatis 15—20 mm latis obtusis saepissime mucronatis leviter sinuato- v. repando-dentatis. — In m. Riesengebirge a m. Rehhorn usque ad Neue schlesische Baude haud infrequens, (800—) 1000—1605 m; Glatzer Schneeberg (Fiek).

b) *latifolium* G. Schneid. l. c., foliis radicalibus interioribus spathulato-lanceolatis ad 3,5 cm latis 13—19 cm longis, in petiolum ad 6 mm latum angustatis ± obtusis plerumque sinuato-dentatis. — Riesengebirge: Melzerlehne, Weisse Wiese, Obere Teichränder, raro.

c) *angustifolium* G. Schneid., foliis radicalibus interioribus anguste v. lineari-lanceolatis 10—12 cm longis 1 cm latis obtusiusculis v. subacutis subintegerrimis. — In m. Asciburgensibus: Auparand, Weisse Wiese, Koppenplan, Kiesberg, Melzerlehne, Schneekoppe, Rehhorn.

2) *villosissimum* Sagorski apud Schneid. l. c. p. 22, indumento ± albo-sericeo denso longoque (ad 8 mm), foliis latioribus angustioribusve. — Cum praecedenti forma.

3) *calvescens* G. Schneid. l. c., indumento in foliorum parte superiore cauleque abbreviato, 1—2 (—3) mm, (saepe multo) minus denso. — Weisse Wiese, Kleine Sturmhaube, Kleine Koppe.

4) *stylosum* (Wimm. Grab. p. p. min.) G. Schneid. l. c., ligulis apice destructis, stylisque ex tubo exsertis. — Riesengrund, Kl. Koppe, Kiesberg, Auparand, Weisse Wiese, Melzerlehne, Kl. Lomnitz supra Melzergrund.

Haec subspecies transitum inter ssp. *melanocephalum* et *H. Fritzei* F. Sch. formas macrocephalas sistit. Per culturam sponteque etiam ligulas ligulatas producit.

Tab. 129, Fig. B. 5—7. *H. alpinum* L. ssp. *tubulosum* Tsch. (e m. Rehborn pr. Schatzlar in montibus Asciburgensibus, leg. Pax). 5. Flos. 6. Squama. 7. Foliorum margo.

c) *Halleri* Zahn.

Subspecies **Halleri** Vill., Hist. pl. Dauph. III (1789) p. 104, tab. 26 (falso „*H. hybridum*“ inscripta); *H. alpinum* III *Halleri* Gaud., Fl. Helv. V p. 68; nec Tausch l. c. Caulis subtenuis v. gracilis v. plerumque crassiusculus v. crassus, flexuosus, ± (saepe angulato-)striatus, pilis canescentibus basi atris ad 10 mm longis brevibus immixtis dense pilosus, glandulis ± longis v. plerumque brevibus permixtis dense obsitus, superne dense densissimeve, deorsum cito deminute floccosus, saepe caules laterales evoluti, omnes monocephali, v. interdum caulis ± profunde furcatus, rami primarii 1—3 valde remoti crassiusculi oblique erecti monocephali, acladium $\frac{1}{5}$ — $\frac{1}{1}$ totius caulis exhibens. Folia rosularia numerosa saepe sat magna, sordide viridia subglaucescentia v. canescenti-viridia, siccitate sordide lutescenti-viridia, ± lanceolata, saepe ± spathulata, obtusa v. acuta, plerumque in petiolum late alatum longe sensimque attenuata, dentata v. irregulariter grosseque sinuato-dentata v. dentibus prominentibus munita, saepissime pluridentata et in margine ± undulata, medio-criter sat denseve longipila, sat dense sublongeque glandulosa; caulina 1—3 plerumque bene evoluta, inferiora saepe radicalibus similia sat magna. Involucrum magnum saepe plus 15 mm longum crasse ovatum v. -globosum, denique late ventricosum-depressum, longe villosopilosum, sat dense glandulosum, effloccosum. Squamae latae v. latiusculae, obtusa v. acutae, subatrae, exteriores saepe ± foliaceae obscure virides squarrosae in bracteas transientes (interdum involucrum externum magnum formantes). Flores ± dense pilosi, plerumque tubulosi, haud raro lingulati, rarissime stylosi, stylis obscuris longe prominentibus. Achaenia subatra.

In Alpibus Europae centralis inter (1500—) 2000—2600 (—2900) m tantum crescens.

Variat: α) **genuinum** Zahn, floribus brunneo-luteis angustissime tubulosis facile excidentibus, apice fere clausis et edentatis v. dentibus inconspicuis munitis, stylis in tubo occultis, achaeniis sine fecundatione fertilibus.

1) **normale** Zahn, Hierac. d. Schweiz (1906) p. 377; *H. alpinum* var. *tubulosum* A.-T., Revis. Eperv. herb. Haller fil., Ann. Jard. bot. Genève (1897) p. 80; nec Tausch. Indumento ± denso longo, pilis canescentibus basi atris.

a) **uniflorum** Gaud., Fl. Helv. V p. 68; *H. pumilum* DC., Fl. franç. suppl. p. 435; *H. albidum*—*alpinum* Bruegg. in sched.; *H. Halleri* v. *rosulatum* Christener, Hierac. d. Schweiz p. 6; *H. alpinum* v. *tubulosum* (Schleich.) Froel., in DC. Prodr. VII p. 208; Gaud., Fl. Helv. l. c.; A.-T. in sched.; nec Tausch. Planta saepe robusta monocephala, capitulis latissimis magnis, foliis sat magnis elongatis dentatis vel grosse irregulariter dentatis, saepissime dentibus subnumerosis munitis. — Delphinatus, Sabaudia, Pedemontium, Alpes, praecipue in solo siliceo.

- b) *ramosum* Froel. l. c. p. 208; caule robusto 2—4 cephalo, ramis 1—3 elongatis crassis monocephalis, interdum caulibus lateralibus praedito. — Mt Cénis (A.-T.); Arolla, Bricolla (Besse, Wilczek), praecipue in Vallesia superiore: Eginental, Maienwand, Rhône-gletscher, Furka; in iugo Spluegen, in alpibus supra Sargans, in valle Sertig et in Engadina superiore Rhaetiae.
- c) *spathulatum* Zahn, in Koch Syn. (1901) p. 1841. Minus robustum monocephalum, foliis rosularibus minus crebro et minus longe dentatis, exterioribus oblongo- v. obovato-spathulatis. — Gr. St. Bernhard, Fionney, Leuk; Breuil; Engadina superior, Parpan.—Matterott in v. Genova Tiroliae austr. (Sardagna), Tir. bor. (Murr).
- d) *angustifolium* Zahn, minus robustum saepissime monocephalum, foliis anguste spathulato-lanceolatis subdentatis, interioribus \pm acutis. — In m. Griesberg v. Eginen, in iugo Furka, in alpibus supra Sargans; in alpe Frauenalpe pr. Murau Stiriae sup. — Forma *furcata* p. e. inter Sils et Surlej Engadinae sup.
- e) *foliosum* Gaud., Fl. Helv. V p. 68; *H. alpinum* var. *odontoglossum* A.-T. in sched. — Folia rosularia pauca v. emarcida, caulina 2—5 sensim decrescentia sat magna denticulata v. dentata sat dense pilosa dense glandulosa. Caulis ad 30 cm altus sed gracilis v. tenuis. Involucra magna. — Locis \pm dense graminosis Alpium.
- f) *microcephalum* Zahn, Hier. d. Schw. p. 379; *H. himantophyllum* A.-T. in sched. p. p. — Humile, foliis parvis, exterioribus saepissime spathulatis, involucris sat parvis, 10—11 mm longis. — In summis iugis Alpium usque ad 2900 m v. etiam locis calcareis usque ad 1700 m descendens: La Berra, Reidenbach, Faulhorn, Gr. Scheidegg, Fully, Anzeindaz Helvetiae.
- 2) *glabrescens* Zahn, Hier. d. Schw. p. 378; *H. Khékii* Jabornegg et *H. intybaceum*—*alpinum* Murr et Jab. (1898) in sched. p. p. Indumento ubique valde deminuto brevioraque, foliis exterioribus saepissime \pm spathulatis disperse v. fere epilosis. — Helvetia: Dzéman (Favrat), Staldenhorn iuxta iugum Simplon (Besse); Stiria sup.: Turrach 16—1700 m (Jabornegg, Fest).
- β) *exsertum* Zahn, floribus omnino luteis tubulosis v. \pm ligulatis haud excidentibus apice apertis et distincte dentatis, stylis semper prominentibus facile conspicuis.
- 1) *normale* Zahn, indumento \pm denso longo, pilis canescentibus basi atris.
- a) *verum* Z., caule robusto, foliis lanceolatis saepissime valde elongatis, irregulariter et crebro dentatis, capitulis magnis denique latissime depressis. — Helvetia: Gr. St.-Bernhard (Touton), Fully, Eginental, Val Sertig, Val Tuors (Zahn), Staetzerhorn (Tout.), Piz Languard (Vollmann). Vorarlbergia: in iugo Arlberg (Murr); Tirolia: Tristen pr. Weissenbach (Treffer), Laghi di Valhona (Sardagna); Stiria: Frauen-

alpe pr. Murau, Hradofen pr. Predlitz, Grieseralp pr. Stadl (Fest), Kuehboden pr. Kanning (de Benz).

Variat floribus angustissime tubulosis (sed apice distincte dentatis), latius tubulosis, semitubulosis v. omnino lingulatis.

- b) *subangustifolium* Z., foliis angustioribus, dentibus brevioribus minus numerosis praeditis, capitulis minoribus. — Engadina inferior: Guarda (Bernoulli); Tirolia: In m. „Kögele“ supra Axams (de Handel-Mazzetti).
 - c) *pseudofoliosum* Z., foliis caulinis evolutis, radicalibus florendi tempore ± emarcidis, caulibus tenuibus saepe elongatis flexuosis. — In pascuis graminosis Alpium.
- 2) *aterrimum* Zahn, in Schinz et Kell., Fl. d. Schw. ed. 2 II (1905) p. 313, caule usque ad basin pilis nigris ad 5 mm longis dense piloso. — Helvetia: Canfin in alpibus supra Bex (Muret).
- 3) *brevipilum* Zahn, indumento abbreviato multo minus denso, in foliis radicalibus exterioribus saepe subnullo. — *H. Khekii* Jab. et *intybaceum*—*alpinum* Murr l. c. (p. p.).
- a) *pluridentatum* Z., foliis spathulato-lanceolatis maioribus pluridentatis subpilosis. — Delphinatus: Supra St. Agnès, Massif de Belledonne (Boulon); Engadina: Val Bevers (Touton).
 - b) *spathuligerum* Z., foliis spathulatis rarius dentatis, exterioribus fere epilosis. — Stiria: Frauenalpe pr. Murau, Diesingsee pr. Turrach (Fest), Zeyritzkampel et Hühnerkaar pr. Wald (de Benz, Khek), Schoenberg pr. Luttach (Treffer). — Delphinatus: Nevache pr. Briançon (Brachet).
 - c) *subangustum* Z., foliis anguste spathulato-lanceolatis subdentatis. — La Boëllaire supra Bex (Wilczek), Guarda Engadinae (Bernoulli); Frauenalpe pr. Murau (Fest). — Rarissime caule foliato.
- 4) *stylosum* Zahn, in Schinz et Kell. l. c. p. 313, floribus valde abbreviatis saepissime haud longioribus quam squamae interiores, stylis longissime e tubo exsertis. — Helvetia: Supra Alesse (Muret), Fully (Schleicher) Neunenenalp (Gaudin), Kl. Scheidegg (Chenevard), in alpibus supra Sargans (Custer); Tirolia: In m. Platzerberg iuxta iugum Brenner (Murr); Stiria: Frauenalpe pr. Murau 2000 m (Fest), Zeyritzkampel (de Benz).

Tab. 128. *Hieracium alpinum* L. ssp. *Halleri* Vill. β) *exsertum* 4) *stylosum* Zahn (e m. Platzerberg, leg. J. Murr). 1. Squama. 2. Pedunculus sub involucri. 3. Flos. 5. Foliorum margo.

Subspecies **calenduliflorum** Backh., Monogr. Brit. Hierac. (1856) p. 23; *H. apiculatum* Tausch in sched. et in Flora (1838) Erg.-Bl. p. 70 (nomen antiquius fortasse preferendum); *H. eximium* v. *calenduliflorum* Uechtr., in Fiek, Fl. Schles. (1881) p. 267; *H. alpinum* var. 3. *Halleri* β) *spathulatum* Wimm. Grab. apud Uechtr. l. c. — Caulis 15—25 (—35) cm altus plerumque crassiusculus v. crassus parum flexuosus fere semper monocephalus, interdum 1—3 caules laterales evoluti. Folia radicalia subnumerosa gramineo-viridia raro subglauces-

centia, in petiolum \pm late alatum et \pm longum sensim angustata, nervo dorsali plerumque albido praedita, exteriora spathulata apice \pm obtusa et saepe breviter mucronata, in margine denticulata v. subintegerrima, interiora subspathulato-lanceolata plerumque elongata, in superiore tertia parte latissima, acutiuscula v. acuta submucronata et saepe \pm plicata, irregulariter subsinuato-dentata v. dentibus patentibus grossis elongatis apice glanduliferis, minoribus alternantibus \pm inciso-dentata; caulina (2—) 3—4, inferiora radicalibus interioribus similia, in petiolum saepe sat longum sensim angustata, superiora angustiora brevius petiolata acutiora, in bracteas foliaceas sensim decrescentia. Involucrum magnum crasse globosum denique late depressum basi \pm truncatum (15—) 18—20 (—21) mm longum, squamae latae lanceolatae subnigrae apice vix barbulatae, exteriores sublaxae, rarissime una alterave foliacea, obtusiusculae, interiores subacutae. Pili in involucrio sat densi 2,5—3,5 mm longi canescentes basi obscuri, setis nigris brevibus immixtis, in caule \pm densi 2—4 (—5) mm longi canescentes basi incrassati et nigri, setis nigris permixtis, folia ubique sat dense pilosa 2—4 (—5) mm. Glandulae in involucrio¹⁾ *subnumerosae* minutissimae, in caule superne numerosae nigrae sat longae deorsum cito deminutae, in foliis ubique mediocriter numerosae v. dispersae sat parvae. Flocci in involucrio subnulli v. basin versus dispersi, caulis apice canotomentosus, inferne usque ad basin deminute floccosus, folia fere effloccosa v. praecipue caulina in margine nervoque dorsali floccis sparsis adpersa. Ligulae pallide aureae lingulatae, dentibus mediocriter sat longeque pilosis. Stylus luteus, interdum subobscurus. Achaenia atra.

Hab. in m. Asciburgensibus (800—) 1200—1450 m: Koppenplan, Auparand, Weisse Wiese, Brunnberg (Sagorski), Kl. Teich, Kiesberg, Kl. Lomnitz supra Melzergrund, Kl. Koppe (G. Schneider); in Sudetis orient.: Glatzer Schneeberg (Oborny); in m. Tatra: Kriván, Késmarker Gruensee, Meerauge, Gr. Fischsee, in v. Gr. Kohlbachtal (Sagorski), Eisseetal 1800 m, Felkertal 1750 m, Furkotatal (Czako), Steinbachsee—Lomnitzer Grat (Wołoszczak); Poppersee (Piaseki), Gruener See — Weisser See 1600 m, Weisseespitze 2000 m, Gerlsdorfer Spitze 2400 m (de Degen); in m. Greiner Alpium Belaënsium, 2000 m; Carpathes: in montibus Mszana et Wysoka ad fl. Łomnica (Wołoszczak).

Variat: a) *verum*, floribus lingulatis.

b) *stylosum*, floribus abbreviatis stylis longe exsertis. — Rarissime.

Tab. 130. *H. alpinum* L. ssp. *calenduliflorum* Backh. (e m. Koppenplan, leg. Lorenz). 1. Dentes ligularum. 2. Apex squamarum. 3. Pedunculus sub involucrio. 4. Nervus dorsalis foliorum. 5. Foliorum margo.

d) *Pseudofritzei* Zahn.

Subspecies **pseudofritzei** Benz et Zahn, Oesterr. bot. Zeitschr. (1902) no. 7. Caulis 10—25 cm altus tenuis v. gracilis v. interdum subcrassiusculus parum flexuosus substriatus mediocriter v. sat dense pilosus, pilis canescentibus, apicem caulis versus basi nigris, 1—3 mm longis, superne disperse vel modice, inferne sparsim glandulosus, glandulis parvis, usque ad basin mediocriter, superne dense floccosus v. subcanotomentosus, phyllopodus v. interdum hypophyllopodus, plerumque monocephalus. Folia gramineo-viridia sat mollia v. subpapyracea remote glanduliformeque denticulata, rarissime subdentata, apice saepe \pm plicata, radicalia alato-petiolata, exteriora elliptico- v. lanceolato-spathulata obtusa mucronulata in petiolum

¹⁾ Involucra „*eglandulosa*“ dicit G. Schneider, in Sag. et Schn., Fl. Centr.-Karp. II (1891) p. 326.

sensim angustata, interiora \pm lanceolata saepe subspathulata acutiora, omnia utrimque disperse mediocriterve pilosa, pilis submollibus 0,5—2,5 mm longis, in margine densius pilosa, 1—3 mm, vel ubique \pm glabrescentia, subtus v. etiam in parte superiore disperse mediocriterve floccosa, in margine semper subfloccosa et disperse minuteque glandulosa, petioli et nervi dorsales interdum \pm purpurascens; folia caulina 2—5 subcito decrescentia lanceolata \pm acuta mucronata, inferiora lanceolata late alato-subpetiolata v. basi subangustata sessilia, interdum basi aequilata v. subrotundata, superiora \pm bracteiformia, omnia sed praecipue superiora utrimque v. praesertim subtus subfloccosa, in margine densius floccosa, denticulata v. subintegerrima. Involucrum globoso-ovatum denique \pm late depressum, 10—15 mm longum, squamae subangustae lineari-lanceolatae acutae apice subbarbulatae, exteriores acutiusculae, obscurae v. nigro-virides, effloccosae, sat dense minuteque glandulosae, pilis canescentibus 1—2,5 mm longis sat dense pilosae subvillosae, pedunculi apice plerumque leviter incrassati, bracteis lineari-lanceolatis linearibusve subfoliaceis obsiti. Ligulae dilute luteae apice breviter subpilosae vel fere glabrae, stylus luteus denique subobscurus, achaenia brunneo-atra.

Stiria, Alpes Carpatho-Transsilvanicae.

Variat: α) **genuinum** Z., caulibus apice subcanotomentosis disperse, rarius mediocriter glandulosis, glandulis *minutis* obsitis.

1) normale, caule gracili v. interdum subcrassiusculo elatiore, foliis elongatis maioribus, capitulis 12—15 mm longis, indumento modice denso.

a) *verum*, caule monocephalo, floribus lingulatis. — Stiria: Huehnerkar et Zeyritzkampel pr. Wald (Khek, de Benz); Dullwitz superior in m. Hochschwab (de Benz).

b) *furcatum*, caule furcato 2-cephalo. — Dullwitz superior (Nevole).

c) *tubulosum*, floribus \pm tubulosis: Huehnerkar (Khek).

2) pergracile, caule tenui v. gracili humili basi saepe purpurascens, foliis sat parvis in nervo dorsali pariter ac in petiolo purpurascens, capitulis 10—12 mm longis.

a) *subpilosum*, foliis caulibusque ubique subpilosis. — Zeyritzkampel, Huehnerkar, Schoberspitze pr. Turrach (Khek, Fest). Babiagora (de Degen).

b) *glabellum*, foliis subpilosis v. in margine tantum breviter subpilosis, caulibus mediocriter sparsimve brevipilis. — Zeyritzkampel, Huehnerkar, Dullwitz superior ad m. Hochschwab (Khek, de Benz).

β) **melanocephaloides** Zahn, caule superne mediocriter v. saepe sat dense glanduloso, glandulis *sublongis*.

1) normale Z., caule elatiore, foliis elongatis, capitulis ad 15 mm longis v. paulo brevioribus. — Huehnerkar pr. Wald (Khek). — Inter ssp. *melanocephalum* Tausch et *pseudofritzei* quasi intermedium.

2) gracilescens Z., caule tenui, foliis sat parvis, capitulis 10—12 mm tantum longis. — Transsilvania: In m. Vurfu Pelaga (Retyezát), leg. de Degen; Babiagora (id.). — Inter ssp. *pseudofritzei* 2) *pergracile* et ssp. *alpinum* quasi intermedium.

Exsicc. C. H. Zahn, Hieraciotheca Europaea no. 274.

Tab. 131. Fig. A. 1, 2. *H. alpinum* L. ssp. *pseudofritzei* Benz et Zahn $\alphagenuinum 1) *normale* α) *verum* Z. (Zeyritzkampel, leg. R. de Benz). 1. Dentes ligularum. 2. Foliorum margo.$

Exstat etiam ssp. **hallerioides** Zahn, habitu omnino *H. Halleri* Vill., caule interdum furcato, capitulis sat magnis, ligulis lingulatis apice plerumque parum pilosis, stylis denique subobscuris, foliis gramineo-viridibus \pm elongato-lanceolatis, in margine semper subfloccosis pluridentatis (dentibus saepe grossioribus), radicalibus exterioribus elongato-lanceolato-spathulatis \pm obtusis.

Stiria: Huehnerkar pr. Wald, inter ssp. *pseudofritzei* et ssp. *Halleri* (leg. E. Khek).

Species intermediae:

83. Hieracium Rostani N. P. = **alpinum—villosum** N. P., Monogr. Hierac. Mitteleurop. II (1886—1889) p. 229.

Subspecies **korongyisense** Zahn, Mag. bot. lap. (1906) p. 71. Caulis c. 25 cm altus subcrassiusculus parum flexuosus substriatus dense pilosus, 3—5 mm. usque infra medium subfloccosus subglandulosus. Folia viridia subglaucescentia subrigidiuscula utrimque sat dense pilosa, 2—4 (—5) mm, denticulata v. subdentata, effloccosa, in margine nervoque dorsali glandulis minutis sparsis obtecta, radicalia c. 5, lanceolata utrimque, basin versus longe sensimque attenuata, acuta, late alato-subpetiolata, in margine saepe subundulata; caulina 3—4 sensim decrescentia, inferiora 1—2 radicalibus similia, superiora ovato-lanceolata basi subattenuata sessila v. basi rotundata. Inflorescentia furcata 2 (—3) cephal. acladium 5—9 cm longum, rami primarii 1 (—2) monocephali, capitula (1—) 2 (—3). Involucrum c. 15 mm longum globoso-ovatum denique depressum, squamae e basi latiuscula sensim angustatae acutissimae, effloccosae, disperse tenuiterque glandulosae, pilis basi nigris apice subobscuris 2—3 mm longis subvillosae. Pedunculi obscure canotomentosi, pilis subobscuris basi aterrimis 3—4 mm longis densis et glandulis nonnullis brevibus obtekti 2—3 bracteati, bracteis inferioribus saepe foliaceis. Ligulae tubulosae apice subglabrae, stylus luteus, achaenia brunneo-atra.

Habit. in m. Korongyis *Carpathum* Rodnensium et in m. Ciaréanu comit. Mármaros *Hungariae*, leg. Ade. — Flor. fine Iul.

Habitu omnino *H. villosa* simile, sed indumento in involucris pedunculisque obscuriore basi nigro, involucris caulomatibusque pariter ac foliorum margo glandulis parvis haud numerosis obsitis.

Tab. 131, Fig. B. 3—5. *H. Rostani* N. P. ssp. *korongyisense* Zahn (in m. Korongyis, leg. Ade). 3. Squama. 4. Pedunculus sub involucrio. 5. Foliorum margo.

84. Hieracium cochleariifolium Zahn, in Koch Syn. (1901) p. 1842; Hierac. d. Schw. (1906) p. 379; *H. cochleare* A. Kerner, apud N. P., Monogr. II (1886—1889) p. 258; non Huter; = **alpinum—glanduliferum** N. P. l. c.

Caulis 10—20 cm altus scapiformis monocephalus aphyllus v. 1—3 foliis caulinis parvis lineari-lanceolatis v. linearibus obsitus, pariter ac folia sat dense pilosus, 4—8 mm, et minute glandulosus, superne fere canotomentosus. Folia rosularia \pm numerosa plerumque petiolata elongata saepe longa, exteriora \pm spathulata obtusa, interiora lanceolata v.

anguste lanceolata, obtusiuscula v. plerumque acuta saepe \pm plicata, in margine \pm distincte remoteque denticulata v. saepe subundulata integerrima, mollia, \pm lutescenti-viridia, in margine subglandulosa rarius fere eglandulosa. Involucrum 10—13 (—16) mm longum crasse ovatum basi rotundatum denique globosum. Squamae e basi lata longe acuminate acutissime nigrovirides, exteriores sublaxae, omnes densissime pilosae sub indumento fere occultae, pilis obscuris v. dilutis v. albis sericeis 2—4 mm longis, \pm eglandulosae et (pariter ac folia) effloccosae. Flores dilute lutei plerumque lingulati extus longe pilosi, dentibus subpilosis v. sparsim ciliatis, stylis dilutis v. obscuris, achaeniis brunneo-atris, 3,5 mm longis.

In *Alpibus* elatioribus, 17—2600 m. — Flor. Iul.—Aug.

Subspecies **cochleariifolium** Zahn; *H. mentitum* A.-T. et Chenev. in sched. Caulis ubique pilosus; folia petiolata, in margine subglandulosa, caulina parva; stylus plerumque luteus, interdum subobscurus. — Helvetia: St. Bernhard: Les Combes (Touton), in v. Bagne (Zahn), in alpe Esserze (Wolf), in v. Eginen (Favrat), in iugo Furka (Zahn); Kirchstuhl in m. Hasliberg pr. Meiningen (Bernoulli); Zervreila (Bruegger); Engadina: in iugo Muretto (Muret), St. Moritz, Piz Alv, Piz Frizlas pr. Berguen (Peter), pr. hospitium Bernina, Val Roseg (Naegeli), V. Muraigl, V. Bevers, Piz Padella (Peter), Albula (Favrat); V. Piora: ad lacum Ritom (Bernoulli); Camoghé (Jaeggi), V. Bosco: inter Madone et iugum Quadrella (Aubert); Tirolia: in v. Vennatal iuxta iugum Brenner et in iugo Pfitscher Joch, Schoenberg pr. Luttach, Dona (ubi?), Fusch (apud N. P. II p. 258).

Ex mea sententia cl. Naegeli et Peter sub nomine „*cochleare*“ duas formas diversas commiscuerunt: 1) *H. alpinum*—*glanduliferum*, 2) *H. cochleare* Huter, subspeciem *H. nigrescentis* Willd., quae in tabulis proximis delineabitur.

Tab. 132, Fig. A. 1—3. *H. cochleariifolium* Zahn ssp. *cochleariifolium* Z. (e m. Hasliberg, leg. Bernoulli). 1. Dentes ligularum. 2. Squama. 3. Foliorum margo.

Subspecies **pseudalpinum** N. P. Monogr. Hierac. Mitteleurop. II (1886—1889) p. 259. Involucra et folia eglandulosa v. glandulis subnullis (praecipue in foliorum nervo dorsali) praedita, caulis ad 18 cm altus, inferne \pm pilosus, superne dense glandulosus et interdum fere epilosus; folia caulina 2—3 subsensim decrescentia, rosularia oblongo-lanceolata v. lanceolata saepe sat magna, basin versus in petiolum late alatum sensim angustata. Flores haud raro subtubulosi, ligulae apice ciliatae, stylus obscurus.

Helvetia: In iugo Simplon, 2000 m, prope hospitium (Wolf); in iugo Gotthard (Muret) et in iugo Spluegen (Zahn).

Tab. 132, Fig. C. 7, 8. *H. cochleariifolium* Zahn ssp. *pseudalpinum* N. P. (e iugo Spluegen legi). 7. Nervus dorsalis et margo ex parte inferiore foliorum caulinorum. 8. Squama.

Subspecies **pseudoglanduliferum** Zahn, in Hierac. d. Schw. (1906) p. 380. Caulis 10—25 cm altus crassiusculus, superne dense longeque glandulosus canofloccosus et disperse mediocriterve pilosus, pilis ad 3,5 mm longis, inferne modice pilosus sensim minus glandulosus disperseque floccosus. Folia rosularia sat magna, valde elongata (ad 15 cm) lanceolata longissime in basin late alatum angustata fere petiolata, utrimque sat dense pilosa. 2—5 mm, in margine leviter denticulata et glandulis nonnullis minutis adspersa; caulinum 1 parvum disperse glandulosum. Involucrum 12 mm longum latissimum, squamae disperse

minuteque glandulosae, pilis densissimis sericeis subfuliginosis villosae. Flores valde breves tubulosi, stylis luteis longissime exsertis.

Helvetia: „Aux Combes“ ad meridiem m. Gr. St. Bernhard (Touton); Tirolia borealis: in m. Bernhardseck pr. Elbigenalp in v. Lechtal (Gross).

Habitu *H. glanduliferi* robusti, sed involucris folisque glandulosis *H. alpinum* in mentem revocans.

Tab. 132, Fig. B. 4—6. *H. cochleariifolium* Zahn ssp. *pseudoglanduliferum* Zahn (Gr. St. Bernhard, leg. Touton). 4. Flos. 5. Foliorum margo. 6. Squama.

85. Hieracium prasinicolor Besse et Zahn, Hierac. d. Schweiz (1906) p. 381; *H. Boccanei* f. *reducta* A. T. in sched. = **alpinum** < **Schmidtii** Zahn l. c.

Caulis ad 30 cm altus subtenuis usque ad basin subpilosus, 2,5—3,5 mm, usque ad basin disperse minuteque glandulosus, apicem versus magis magisque floccosus. Folia rosularia subnumerosa glauca subprasino-viridia subtus pallidiora, pedunculata, exteriora saepissime obovata obtusa, reliqua oblonga v. oblongo-lanceolata acuminata ± acuta, basin versus cito sensimve in petiolum alatum basi late vaginantem angustata, dentata, utrinque dentibus 4—5 maioribus, minoribus alternantibus in petiolos descendentibus, hic subulatis, supra glabra, in margine pilis rigidis 1—2,5 mm, in petiolo ad 3 mm longis obsita; folia caulina 1—2, imum lanceolatum grosse dentatum, summum lineare; omnia folia in margine et in nervo dorsali subfloccoso disperse minuteque glandulosa. Acladium 20—30 mm longum, rami primarii 1—3 remoti monocephali v. simpliciter (rarius dupliciter) ramosi, capitula (1—) 2—5 (—8). Involucrum 10—11 mm longum ovatum, squamae angustae acutiusculae v. acutae (exteriores angustissimae), mediocriter breviterque pilosae, modice glandulosae floccosaeque, obscurae. Pedunculi canotomentosi sparsim pilosi sat dense glandulosi. Flores dilute lutei, ligulae apice breviter ciliatae, stylus denique ± dilutis, achaenia subatra.

Helvetia: In iugo Simplon c. 2300 m, inter frutices (Besse). — Iul.—Aug.

Verosimiliter inter *H. alpini* ssp. *Halleri* et *H. Schmidtii* ssp. *H. rupicolum* Fr. intermedium, sed posteriori propius accedens.

Tab. 133. *H. prasinicolor* Besse et Zahn (e loc. class., leg. Besse). 1. Dentes ligularum. 2. Stylus. 3. Squama. 4. Pedunculus sub involucrio. 5. Apex foliorum. Foliorum margo. 7. Nervus dorsalis foliorum. 8. Folium radicale interius.

86. Hieracium nigrescens Willd., Spec. pl. III, 3 (1800) p. 1574; Hort. Berol. (1816) p. 7, tab. 10; Enum. II (1816) p. 823; Froel., in DC. Prodr. VII (1838) p. 209; Fries, Symb. (1848) p. 104; Epicr. (1862) p. 44; Fiek, Fl. Schlesien (1883) p. 268; Zahn, in Koch Syn. (1901) p. 1843; Hierac. d. Schweiz (1906) p. 381; *H. alpinum* Auct. Scand. p. p. (quoad formas stylis ± atris); *H. alpinum* var. *fuliginosum* et var. *gracilentum* Fr., Symb. p. 70; *H. Halleri* Wimm., Fl. Schles. ed. 2 (1844) p. 24; *H. alpinum* var. *atratum* Griseb., Comm. (1852) p. 29; *H. alpinum* × *murorum* Neilr., Verh. zool.-bot. Ver. Wien (1851) p. 124; F. Schultz, Archives (1854) p. 18; = **alpinum—silvaticum** Zahn, in Koch Syn. l. c.

Caulis 10—30 cm altus, saepe ascendens et ± flexuosus, tenuis v. subgracilis rarius crassiusculus, ± striatus, phyllopodus. Folia rosularia numerosa, obovata, oblonga, oblongo-lanceolata v. lanceolato-spathulata, sensim in petiolum ± longum plerumque ± alatum angustata v. praecipue exteriora cito contracta v. basi ± truncata, apice obtusa v. breviter,

rarius longius acuminata, haud raro mucronata et \pm plicata, remote denticulata v. praecipue basin versus \pm grosse dentata v. sinuato-dentata, rarius subintegerrima, v. pluridentata, dentibus apice glanduliformibus interdum in petiolum descendentes, $+$ sordide, rarius dilute viridia, sat mollia v. rigidiuscula; caulina plerumque 0—3 cito decrescentia, inferius radicalibus interioribus simile, $+$ petiolatum, saepe grosse dentatum, v. omnia \pm lanceolata v. summum lineari-lanceolatum v. longe subulatum. Inflorescentia monocephala v. \pm furcata suprafastigiata indeterminata oligocephala. Acladium breve v. ad 5 cm longum v. ad $\frac{1}{1}$ totius caulis exhibens, interdum nonnulli caules laterales evoluti; rami primarii nulli vel 1—2 (—4) evoluti \pm arcuato-ascendentes fere semper monocephali. Involucrum 10—15 mm longum, rarius longius, globoso-ovatum basi rotundatum denique (interdum late) depressum saepeque ventricosum; squamae conformes, exteriores saepe sublaxae, rarissime subfoliaceae, omnes fere regulariter imbricatae, latiusculae v. angustae, obtusiusculae v. acutiusculae v. acutae, interdum acutissimae, apice saepe \pm barbulatae, obscurae v. atrae v. atrovirides, saepe dilutius submarginatae. Bracteae 1—3 parvae, rarius inferiores subfoliaceae. Pili in involucrio numerosi v. sat densi, \pm canescentes v. obscuri, basi atri, 1,5—3 mm longi, caulomata disperse v. \pm dense pilosa, 1,5—3 (—4) mm, folia in margine nervoque dorsali pariter ac in petiolo dense mediocriterve pilosa, 2—5 mm, rarius \pm calvescentia, utrimque \pm disperse mediocriterve, rarius densius pilosa, pilis mollibus v. subrigidiusculis interdum brevibus. Glandulae in involucrio pedunculisque modice numerosae v. sat densae, saepe breves, caulibus basin versus deminutae, sed plerumque usque ad basin descendentes, in foliorum margine (etiam in nervo dorsali petioloque) subnumerosae v. dispersae saepe sat parvae, sed semper sub lente bene observandae. Flocci in involucrio nulli v. dispersi, rarissime subnumerosi, pedunculi obscure cani v. subcanotomentosi, caulis plerumque usque ad basin deminute floccosus, haud raro subincanus, folia effloccosa v. saepe in nervo dorsali subfloccosa, v. interdum praecipue caulina etiam in tota parte aversa disperse rarius modice floccosa. Flores saepissime dilute lutei, extus plerumque parum pilosi, ligulae apice \pm ciliatae v. interdum breviter subpilosae, stylus obscurus v. niger, achaenia atra.

Hab. in area geographica *H. alpini*, sed fugit summa loca huius speciei. — Flor. Iul., Aug.

Dispositio gregum:

- a) *Decipiens* Zahn, in Koch Syn. (1901) p. 1843; Hierac. d. Schweiz (1906) p. 382. *H. alpino* proximum. Folia lanceolata v. lanceolato-spathulata longe sensimque in petiolum \pm alatum angustata, rarius latiora et \pm cito in petiolum contracta. Caulis monocephalus vel furcatus —2 (—3) cephalus, acladium ($\frac{1}{5}$ —) $\frac{1}{4}$ — $\frac{1}{2}$ (— $\frac{1}{1}$) totius caulis exhibens. Capitula saepe maiora. — Ssp. subpumilum, pseudohalleri, leontodontoides, decipiens, dubiosum, pseudodecipiens, cochleare, reichartense, subzinkenense, Sagorskii, pseudorhaeticum, rhaeticiforme, nigrescentiforme, valpiorae, sphaerocalathium, nivimontis, subeximium, bructerum, subrhaeticum.
- b) *Nigrescens* Zahn l. c. *H. silvatico* magis affine, ergo inter gregem *Decipiens* et *H. atratum* Fr. intermedium. Folia \pm cito v. subito in petiolum contracta plerumque latiora, late lanceolata v. oblonga, rarius angustiora sensimque angustata. Caulis oligocephalus (1—4) altifurcatus, acladio brevissimo v. ad 5 cm (— $\frac{1}{4}$ totius caulis) longo. Capitula plerumque minora. — Ssp. rhaeticum, stellulatum, subneglectum, nigrescens, stiricolum.

a) *Decipiens* Zahn.

1. Caulis fere semper monocephalus.

Subspecies **subpumilum** Zahn, in Schinz et Kell., Fl. d. Schweiz ed. 2 II (1905) p. 313; Hierac. d. Schweiz (1906) p. 382; ssp. *pseudohalleri* a) *subpumilum* Zahn, in Koch

Syn. (1901) p. 1844; *H. himantophyllum* A.-T., Spicileg. Hierac. suppl. (1886) p. 45 p. p.; *H. lorophyllum* A.-T. prius, in Notes pl. Alp. p. 17 p. p. (apud determinationes A.-Touvetii in herbariis Helv.) Habitus ut in *H. alpini* L. ssp. *alpino*. Caulis 8—15 (—18) cm altus plerumque tenuis et monocephalus, rarissime profunde furcatus 2—cephalus, sat dense v. dense canopilosus disperse minuteque glandulosus densissime floccosus subcanotomentosus, interdum 1—2 caulibus lateralibus praeditus. Folia rosularia saepe sat parva, obovata v. oblonga v. oblongo-lanceolata, obtusa v. acutiuscula, denticulata v. \pm dentata, cito sensimve in petiolum brevem attenuata, mediocriter pilosa; caulina 0—2 parva subtus subfloccosa plerumque bracteiformia v. inferius lanceolatum. Involuerum 10—14 mm longum globosum v. globoso-ovatum, squamae subangustae acutiusculae v. acutae v. intimae acutissimae. Flores evoluti, interdum semitubulosi, dentes ligularum longi angusti dense ciliati, v. flores tubulosi ligulis apice \pm debilibus; rarissime floribus stylosis.

Variat: a) *verum* Zahn; *H. pumilum* A. Kerner, Fl. Austr.-Hung. no. 3341; pilis 2—3 mm longis, foliorum basin versus ad 4,5 mm longis densissimisque. — Helvetia: Col de Balme 2200 m (Maillefer), Gr. St.-Bernhard: L'Arpettaz (Delasoie), Aerner Galen versus Blinnental (Kneucker), in m. Gries vallis Eginen (Zahn); Paneyrossaz (Muret), Anzeindaz (Favrat); Wengernalp (Muret), Hohfluh pr. Meiringen, Kirchstuhl et Hochstrasse sub m. Hohenstollen in montibus Hasliberg (Bernoulli); in iugis Pasetti, Bernharden, Spluegen usque 2000 m (Bruegger, Zahn), Pala da Tgiern in valle Glennerthal (Steiger), in alpe Bregalga (Bruegger), Valserberg (Zahn), Hochgraetli supra Avers (Schroeter); Piz Beverin (Bruegger), Albula (Muret), Val Bevers (Touton); Val Onsernone: Monzelumo, Porcareccio, in iugo Cranello (Baer), Cima di Cugn (Jaeggi), Campo Tencia (Chenevard). — Flora Vallostana: in valle Cogne: Gollié (Wolf). — Tirolia: In m. Blaser pr. Trins (A. Kerner), in alpe Kartitsch vallis Pustertal (Goller). — Algovia: ad lacum Rappensee (Gugler). — Carinthia: in iugo Mallnitzer Tauern (de Benz).

b) *brevipilum* Zahn, Hierac. d. Schweiz (1906) p. 383, pilis ubique 0,5—2 (—2,5) mm tantum longis, foliis utrimque sparsim disperse pilosis. — Helvetia: sub m. Hohenstollen 2000—2100 m; Val Piora: Fongio (Bernoulli).

Exsiccata: Flora Austr.-Hung. no. 3341 (pro parte?).

Tab. 137, Fig. C. 6, 7. *H. nigrescens* Willd. ssp. *subpumilum* Zahn a) *verum* (e iugo Spluegen, legi). 6. Squama. 7. Pedunculus sub involucrio.

Subspecies *pseudohalleri* Zahn, Hieracia Vulpiana, in Mitt. Bad. Bot. Ver. (1899); in Koch Syn. (1901) p. 1844; Hierac. d. Schw. (1906) p. 383. Caulis 15—25 (—30) cm altus gracilis v. crassiusculus, plerumque dense molliterque pilosus disperse glandulosus densissime floccosus, sub involucrio subdensius longiusque glandulosus. Folia rosularia numerosa sat magna ad 12 cm longa, exteriora oblongo-lanceolata v. obovato-spathulata obtusa, interiora oblongo-lanceolata subobtusata vel breviter acuminata saepe \pm plicata, omnia in petiolum alatum sat longum v. longum sensim angustata, denticulata v. dentata v. subserrato-dentata, dentibus subnumerosis saepe acutis in petiolum descendentes; caulina plerumque 2—3 lanceolata v. anguste lanceolata elongata sat parva in 2—3 bracteis lineares v. subulatas

saepe subfoliaceas decrescentes. Involucrum 10—15 mm longum globosum v. late ventricosum, densissime molliterque pilosum subvillosum, disperse mediocriterve glandulosum effloccosum, glandulis parvis, squamis subatris e basi latiuscula longe acuminatis plerisque acutis v. acutissimis. Flores plerumque lingulati apice sat dense pilosi.

Saepeissime formulae *Halleri* > *silvaticum* respondens.

Variat: $\alphagenuinum Zahn, foliis supra subpilosis glabrescentibusve, caulibus fere semper monocephalis.$

1) normale Zahn, Hierac. d. Schw. (1906) p. 383, *H. pilosum* Schl. in sched.; Griesebach, Comment. (1852) p. 30 p. p.; *H. fuliginosum* Christener in sched., nec Laestad.; *H. leontodontoides* f. *ligulata* A.-T. in sched. nonnull. Caulis dense floccosus, haud canotomentosus.

a) *verum* Zahn l. c. Tota planta sat dense pilosa, pilis 2—4 mm longis. — Helvetia occidentalis: Gr. St.-Bernhard, Boëllaire (Wilczek), Galenalp pr. Fée (Favrat), inter Obergestelen et iugum Grimsel (Bernoulli), Furka, Realp, St. Gotthard (Chenevard, Correns, Schleicher); Axalp, Gr. Scheidegg (Christener, Bernoulli), in m. Pilatus: Klimsenhorn supra Hergiswyl (R. Buser, Schroeter); Helvetia orientalis: in alpe Tschengdador (Bruegger), Val Fedoz (Hegi), Albula (Muret), in iugo Spluegen (Zahn), „auf dem Kreuz“ pr. St. Antönien vallis Praetigau (Bahmaier); in alp. Matt et Tierfeld pr. Glarus (Heer, Schroeter); Helvetia australis: Cima di Cagnone, Pizzo del Ambro, in alpinis Giovo et Morghiola (Chenevard), Val Piora (Bernoulli); Vorarlbergia: Stuben (Winder); Tirolia: Rofanspitz, Roskogel (Murr), Glungezer pr. Hall (Heufler), in m. Blaser 2100 m pr. Matrei (A. Kerner, sub nom. *H. Halleri*), in m. Podaster vallis Gschnitz (Zimmerer), Neuprags (de Benz), Nemesalp pr. Sexten 20—2200 m (Huter), Schlern et Villanderer Alpe (de Hausmann), in alpinis pr. Kitzbühel (Traunsteiner); Salisburgia: Schmittenhöhe (Kappel); Algovia: Fellhorn (Vollmann).

b) *calvescens* Zahn, Hierac. d. Schweiz l. c., pilis 0,5—2,5 mm tantum longis ubique minus numerosis. — In alpe Blattalp vallis Binn (Touton).

2) *canescens* Zahn, caulibus praecipue apicem versus canotomentosis, floribus saturate luteis. — Carinthia: inter Hannoverhütte et Korntauern, Mallvitzer Tauern (de Benz).

Occurit hoc loco forma robusta furcato-2-cephala, capitulis latissime ventricosis, acladio $\frac{2}{3}$ totius caulis exhibente.

β) **subcochleare** Zahn apud Murr, in Oesterr. bot. Zeitschr. (1902) p. 497; foliis utrimque dense pilosis, caulibus subtus parcefloccosis, caulibus haud raro furcato-2-cephalis. — In valle Sertigtal pr. Davos 1950 m (Zahn), ad meridiem m. Pian alto in valle Piora (Bernoulli), in m. Blaser pr. Matrei et in m. Platzerberg Tiroliae (Murr).

Tab. 137, Fig. A. 1—3. *H. nigrescens* Willd. ssp. *pseudohalleri* $\alphagenuinum 1) normale a) *verum* Zahn (e m. Fellhorn, leg. Vollmann). 1. Squama. 2. Pedunculus sub involucri. 3. Foliorum margo.$

Tab. 137, Fig. B. 4, 5. *H. nigrescens* Willd. ssp. *pseudohalleri* β) *subcochleare* Zahn (e m. Blaser, leg. Murr). 4. Squama. 5. Pedunculus sub involuero.

Subspecies **leontodontoides** Arv.-Touv. et Briq., Indicat. d'Eperv. (1894) p. 9; Zahn, Hierac. d. Schweiz (1906) p. 383. Caulis (5—) 10—20 cm altus sat dense pilosus disperse glandulosus dense floccosus monocephalus. Folia rosularia saepe parva, exteriora obovato-spathulata obtusa, interiora maiora oblongo-lanceolata acutiuscula, omnia in petiolum \pm longum subito sensimve attenuata, a medio ad basin (saepe more *Leontodontis*) grosse triangulariterque sinuato-dentata; caulina 1—2 subtus plerumque parcefloccosa, inferius utrinque saepe uno altero dente triangulari munitum, supra summum bractea foliacea interdum inserta. Flores fere semper breviter tubulosi apice discissi, stylis longe exsertis.

Sabaudia: Aiguille de la Vuardaz 2400 m, Tête du Pré des Scaix 2100 m, Col de Coux, Les Haut Forts 2000—2400 m, Taney (Briquet). — Helvetia: in iugo Grimsel (Vulpus, Chenevard).

Tab. 135, Fig. B. 4—7. *H. nigrescens* Willd. ssp. *leontodontoides* A.-T. et Briq. (e iugo Grimsel, leg. Vulpus). 4. Squama. 5. Pedunculus sub involucro. 6. Foliorum margo. 7. Flos cum stylo.

Subspecies **decipiens** Tausch, in Flora (1828) Erg.-Bl. I p. 66 et in Flora (1837) Erg.-Bl. I p. 69; Plant. sel. flor. Boh. ed. 2 fasc. 3; nec Froel., nec alior.; *H. depiciens* α) *occidentale* G. Schneid., Hierac. Westsudeten, in „Das Riesengebirge in Wort und Bild“, Heft 41 und 42 (1891) p. 27. Caulis (8—) 15—30 (—40) cm altus \pm flexuosus, plerumque crassiusculus v. crassus, mediocriter v. sat dense pilosus, pilis subobscuris basi atris 2—3,5 mm longis, disperse, apice densius et sat longe glandulosus, sat dense floccosus. Folia sordide viridia vel viridia submollia interdum subrigida, utrinque disperse v. sat dense, in margine nervoque dorsali et in petiolo densius pilosa, pilis mollibus, 2—2,5 mm longis; radicalia numerosa, oblonga, elliptica v. ovalia, v. ovato- v. oblongo-spathulata v. lanceolata, exteriora magis rotundata fere integerrima longe subalato-petiolata v. sensim usque ad basin angustata, reliqua denticulata v. leviter sinuato-dentata v. profundius et plerumque valde irregulariter dentata, dentibus glanduloso-apiculatis, apice rotundata v. acutiuscula v. acuta plerumque mucronata; caulina saepissime 2—3 oblongo- v. lineari-lanceolata v. linearia, basin versus angustata subpetiolata v. sessilia, inferiora saepe denticulata v. dentata, reliqua \pm integerrima acuta haud raro acutissima. Capitula 1 (—3, rarissime ad 5); acladium $\frac{1}{4}$ — $\frac{1}{1}$ totius caulis; involucrum (12—) 15—16 (—18) mm longum semiglobosum denique saepe depressum basi truncatum, pilis densis 2—3 mm longis apice dilutis basi atris, glandulis minutis subnumeris floccisque subnullis obsitum; squamae angustae acutae v. acutissimae subatrae.

In Sudetis usque ad Tatram et in montibus Sarmaticis.

Variat: 1) normale G. Schneid. l. c. Folia radicalia longe petiolata in petiolum sensim angustata. — In montibus Asciburgensibus, (800—) 1000—1600 m, a Neue schlesische Baude usque ad m. Rehhorn; Tatra: Giewont, Swinnica, Polnische Fünfseen, Krivan, Grosser Fischsee (Rehmann); Czorna hora: Pleczy (Wołoszczak).

2) brevipetiolatum G. Schneid. l. c. Folia radicalia breviter petiolata v. usque ad basin attenuata. — In montibus Asciburgensibus a m. Reiftraeger usque ad m. Schneekoppe, 13—1600 m, haud infrequens. — Tatra: Kriván (Sagorski, Pax), in valle Mlinica et ad lacum Csorbaënsem (Sagorski).

Exsiccata: Magnier, Fl. select. 2512.

Tab. 136, Fig. A. 1—3. *H. nigrescens* Willd. ssp. *decipiens* Tsch. 1) *normale* (G. Schneid. (Weisse Wiese Sudetorum, leg. Sagorski). 1. Squama. 2. Pedunculus sub involucrio. 3. Foliorum margo.

Subspecies *dubiosum* G. Schneider, in „Das Riesengebirge in Wort und Bild“, Heft 43 et 44 p. 24 1892. Caulis erectus 18—25 cm altus ± crassiusculus, pilis dilutis basi atris 1,5—2,5 mm longis, glandulis dispersis sub involucrio numerosis floccisque superne densis basin versus deminutis vestitus, **monocephalus**. Folia mollia **gramineo- v. sordide viridia**, pariter ac petioli dense pilosa; radicalia florendi tempore numerosa, oblonga, elliptica v. ovata, rarius oblongo-lanceolata, in petiolum alatum mediocriter longum valde sensim angustata, apice rotundata v. obtusiuscula, subdenticulata v. leviter dentata; caulina 2—5, inferius v. etiam secundum spathulato-lanceolatum, in superiore quarta parte latissimum, deorsum in petiolum late alatum cuneato-angustatum acutiusculum, in superiore tertia parte utrimque subdentatum, media oblongo-lanceolata sessilia v. breviter attenuata, repando-dentata acutiuscula, summa parva sessilia lanceolata v. lineari-lanceolata acutiuscula v. acuta. Involucrium 15 mm longum semiglobosum, pilis 2—3 mm longis subvillosum, glandulis sublongis subglandulosum, parcefloccosum. Squamae numerosae subatrae, exteriores latae obtusae, mediae latiusculae obtusiusculae, intimae acutae. Ligulae partim involutae, subpilosae apice dense pilosae. Flores aureolutei. Stylus obscurus.

Transitum *decipiens*—*tubulosum* sistit.

In montibus Asciburgensibus 1250—1350 m: In declivitatibus meridionalibus supra lacum Kl. Teich, in m. Kiesberg et Seiffenberg (G. Schneider).

Subspecies *pseudodecipiens* G. Schneider l. c. Heft 43 et 44 (1902) p. 24. Caulis 25—28 cm altus erectus subflexuosus mediocriter pilosus, 2 mm, superne dense, deorsum deminute glandulosus, superne canofloccosus, usque ad basin mediocriter floccosus, **monocephalus**. Folia viridia utrimque mediocriter, in margine petioloque dense pilosa, pilis 0,5—1 mm, in petiolo ad 3 mm longis; radicalia 4—6, exteriora oblonga v. elliptica subdenticulata apice rotundata, interiora oblongo-lanceolata irregulariter sinuato-dentata, dentibus nonnullis maioribus antrorsum versis v. patentibus munita, acutiuscula v. acuta interdum apice plicata, omnia sensim in petiolum longum attenuata; caulina 3—5, inferius radicalibus interioribus simile, proximum lanceolatum breviter alato-petiolatum v. basin versus sensim angustatum, denticulatum v. dentatum, acutum, summa multo minora lineari-lanceolata basin versus angustata acutissima. Involucrium 16—17 mm longum semiglobosum denique basi truncatum dense pilosum, 2—3 mm, mediocriter sparsimve glandulosum, parcefloccosum. Squamae atrovirides, latiusculae, exteriores obtusiusculae, interiores acutiusculae v. acutae. Flores aureolutei, mediocriter, apice sat dense pilosi, stylus obscurus.

Inter ssp. *decipiens* et ssp. *calenduliflorum* intermedium, sed ssp. *decipiens* magis affine. Cum ssp. *calenduliflora* convenit foliis radicalibus interioribus irregulariter sinuato-dentatis, caule ad 5 foliato, capitulis magnis, ligulis magis pilosis, cum ssp. *decipiente* congruit foliorum radicalium exteriorum forma, foliis sensim in petiolos longos attenuatis, squamis acutioribus.

In montibus Asciburgensibus: In declivitatibus sub m. Kleine Koppe et supra lacum Kl. Teich, 1300—1350 m (G. Schneider).

Subspecies **cochleare** Huter, Exsicc. (1875); Zahn, in Koch Syn. (1901 p. 1884; nec A. Kerner, nec N. P., Hierac. Mitteleurop. II (1886—1889) p. 258; *H. Hulleri* A. Kern. in sched. p. p.; *H. nigrescens* Huter, Exs. (1874). Folia rosularia numerosissima plerumque longe petiolata obovato-spathulata cochleariformia, acute denticulata, basi saepe 1—2 dentibus grossis munita, effloccosa; caulina 1—2 (—3) in nervo dorsali tantum parcefloccosa. Caulis 10—20 (—25) cm altus tenuis v. gracilis dense floccosus superne incanus, usque ad basin sparsim tenuiter glandulosus, superne minute subglandulosus, fere semper monocephalus, rarissime profunde furcatus 2-cephalus, sed interdum 1—2 caules laterales 1—3 cephalo evoluti. Tota planta sat dense v. dense pilosa subvillosa, pilis ubique 2—4 mm longis dilutis apice albidis, in involucri pedunculisque tantum basi obscuris. Involucrum semiglobosum obscure canum, 11—15 mm longum; squamae valde numerosae plerumque angustissimae longe acuminatae subacutae v. pleraeque acutissimae, exteriores interdum obtusiusculae, omnes mediocriter minuteque glandulosae sparsim floccosae. Flores lutei, ligulae apice subpilosae, stylus initio interdum subluteus, denique semper obscurus.

Eximia subspecies, totius plantae indumento ± denso dilutoque insignis.

Tirolia: In m. Kreuzberg, loco „Schuss“ dicto, 2000 m, pr. Sexten (Huter); **Carinthia:** in iugo Ploeken (Pichler), inter iugum Rudniker Sattel et vallem Trogtal, Lanzenkopf in v. Gailtal (de Benz); **Tir.:** inter iugum Rollepach et Cimon della Pala (Briquet), inter Peitlerkopf et Campill (Rodler), Palü, Sasso rosso (Sardagna), Bergeralpe in v. Virgental (Gander), Baerental pr. St. Jakob, Trippach in v. Ahrntal 20—2300 m (Treffer), in montibus iuxta iugum Brenner: Blaser pr. Matrei (A. Kerner), Schluesseljoch (Harz), inter Griesberg et Venna, Riedberg (Huter) etc., in iugo Truna v. Gschnitz (de Benz) et pr. Innsbruck: Roskogel (Murr), in alpe Stallsims (Poell).

Exsiccata: Doerfler, Herb. norm. 3145; Zahn, Hieraciotheca Europ. no. 63.

Tab. 134, Fig. A. 1, 2. *H. nigrescens* Willd. ssp. *cochleare* Huter (e m. Kreuzberg pr. Sexten, leg. Huter). 1. Squama. 2. Foliorum margo.

Subspecies **reichartense** Zahn (1903) in sched. Caulis (6—) 10—15 cm altus gracilis v. crassiusculus mediocriter pilosus, 2,5 mm, modice glandulosus, usque ad basin sat dense, superne cano-floccosus. Folia radicalia numerosissima, brevius longius ± alato-petiolata, lanceolato-spathulata v. lanceolata, obtusiuscula v. acuta saepe ± plicata, petiolum versus longe sensimque angustata, interdum usque ad basin attenuata, luteo- v. sordide viridia subglaucescentia, exteriora saepe oblongo-spathulata obtusa, omnia tantum denticulata, mediocriter pilosa, pilis tenuibus 1—3 (—4) mm longis, in parte superiore saepe subrigidiusculis, v. subglabrescentia, praecipue in margine mediocriter minuteque glandulosa, interiora interdum in margine floccis sparsis adspersa; caulina 1—3, inferius lanceolatum, reliqua v. omnia lineari-lanceolata v. linearia bracteiformia, obsolete denticulata v. integerrima, in margine nervoque dorsali disperse floccosa. Inflorescentia monocephala v. furcata, rhizoma interdum nonnulli caules laterales evolvens, 3,5—6 cm (— $\frac{1}{2}$ totius caulis) longum, rami primarii 0—2 (—3) valde remoti erecti monocephali, capitula 1—2 (—4). Involucrum 11—15 mm longum late globosum denique depressum, primum saepissime maius quam involucra lateralia. Squamae sublatiusculae v. subangustae longe acuminatae acutiusculae v. acutae atrovirides v. atrae vix dilutius marginatae, sat dense pilosae, pilis apice dilutis 1,5—2 mm longis, et mediocriter minutissimeque glandulosae, effloccosae. Bractee 2—4, inferiores lineares subfoliaceae. Flores dilute lutei, ligulae angustae saepe ± involutae, apice subpilosae, stylus subater saepe haud exsertus.

Austria inferior: In m. Reichart (G. Beck) et in m. Wechsel (Wołoszczak); Stiria: Edelsteig et Voistaler Huette 1700 m in m. Hochschwab (de Benz, Nevole).

Tab. 134, Fig. B. 3—5. *H. nigrescens* Willd. ssp. *reichartense* Zahn (e m. Hochschwab, leg. Nevole). 3. Squama. 4. Pedunculus sub involucri. 5. Foliorum margo.

Subspecies **subzinkenense** Zahn (1907). Caulis tenuis v. gracilis 10—15 (—18) cm altus sat dense pilosus, 2—3.5 mm, dense, superne cano-floccosus, disperse, basin versus sparsim minuteque, superne subdensius longiusque glandulosus, monocephalus. Folia radicalia haud numerosa. ± gramineo-viridia, lanceolato-spathulata v. lanceolata, obtusiuscula v. acuta saepe ± plicata, basin versus longe sensimque in petiolum ± longum subalatum angustata, exteriora minora oblongo-spathulata florendi tempore saepe ± emarcida, omnia mediocriter, in margine petioloque subdensius pilosa, 2—3 mm, praeterea in margine subfloccosa, sparsim denticulata v. partim subintegerrima; caulina 2—3, inferius lanceolatum basin versus angustatum fere late alato-petiolum, reliqua sat parva anguste lanceolata v. linearia, in margine subtusque praecipue in nervo mediano subfloccosa et glandulis parvis obsita. Involucrum semiglobosum 10—12 mm longum breviter subvillosum, pilis canescentibus basi obscuris; squamae angustae acutae, mediocriter glandulosae subeffloccosae. Ligulae luteae apice parum pilosae, stylus obscurus.

Formulae *pseudofritzei* > *silvaticum* respondens.

Carinthia: Koralpe (de Benz).

Tab. 134, Fig. C. 6—8. *H. nigrescens* Willd. ssp. *subzinkenense* Zahn (Koralpe, leg. de Benz). 6. Squama. 7. Pedunculus sub involucri. 8. Foliorum margo.

Subspecies **Sagorskii** G. Schneider, Hierac. Westsudet. in „Das Riesengebirge in Wort und Bild“, Heft 43 et 44 (1892) p. 25. Caulis 15—25 cm altus parcepilosus v. subglabratus, praecipue superne dense glandulosus, monocephalus. Folia radicalia numerosa oblongo-lanceolata, irregulariter profunde v. inciso-dentata, dentibus apice glanduliformibus, in petiolum alatum sensim angustata v. fere omnia late elliptica basi subabrupte in petiolum attenuata denticulata v. remote dentata, obtusa v. rotundata plerumque mucronata; caulinum 1 parvum anguste v. lineari-lanceolatum haud petiolatum, basin versus sensim angustatum, denticulatum vel integerrimum apiculatum v. acutissimum. Involucrum 10—15 mm longum semiglobosum denique basi truncatum sat dense pilosum, pilis partim brevibus atris subsetosis, partim longioribus canescentibus basi atris subvillosum, mediocriter glandulosum effloccosum; squamae subangustae acutiusculae.

Characteribus inter ssp. *decipiens* et sequentis *gregis* ssp. *nigrescens* ± intermedium.

In montibus Asciburgensibus: Koppenplan, Auparand, Peterbaude, Kesselkoppe (Sagorski).

Subspecies **pseudorhaeticum** Zahn, in Koch Syn. (1901) p. 1845: Hierac. d. Schweiz (1906) p. 385; *H. Halleri* Schl. p. p. in sched.; *H. alpinum* 2) *glabrescens* Froel., in DC., Prodr. VII (1838) p. 208 p. p. Caulis 10—20 cm altus gracilis rarius subcrassiusculus, mediocriter sat denseve pilosus, pilis (0.5—) 1—2 (—3) mm longis canescentibus basi atris, superne dense (pedunculi) sat longeque, inferne mediocriter breviusque glandulosus, inferne dense, superne subcanofloccosus, semper mono- v. furcato-2-cephalus, raro caules laterales 1—2-cephali evoluti. Folia radicalia plerumque numerosissima submolliora sordide viridia interdum subglauescentia, utrumque subpilosa v. glabrescentia, in margine petioloque

subdensius pilosa, pilis 1—2,5 mm, in petiolo 2—4 mm longis, praeterea in margine tenuiter subglandulosa, effloccosa, exteriora elliptico- v. oblongo-spathulata rotundata v. obtusa, saepe mucronata, denticulata v. irregulariter dentata in petiolum anguste v. late, basi latissime adatum subcito sensimve angustata, interiora magis elongata oblongo-lanceolata subspathulata v. lanceolata acutioraque saepe \pm plicata, in petiolum longe sensim angustata, crebro (ut in *H. Halleri* Vill.) dentata v. grosse irregulariterque dentata, dentibus subangustis apice glanduliformibus saepe in petiolum descendentibus: caulina 1—2, inferius lanceolatum dentatum v. grosse dentatum, summum lineare, in nervo dorsali subfloccosum. Acladium $\frac{1}{2}$ — $\frac{1}{1}$ totius caulis exhibens, capitula 1—2, secundum saepe abortum, pedunculi 1—3 bracteis linearibus elongatis saepe subfoliaceis obsiti. Involucrum semiglobosum denique depressum 12—15 (—16) mm longum obscurum, subdense pilosum, pilis apice canescentibus basi atris, 1—2 (—3) mm longis, mediocriter glandulosum, effloccosum. Squamae angustae acuminatae acutae v. acutissimae atrae v. atrovirides, interiores saepe subdilutius submarginatae. Flores saturate lutei, ligulae apice mediocriter pilosae, stylus subater.

Inter ssp. *rhaeticum* Fr. et *H. alpini* ssp. *Halleri* intermedium.

Variat: 1) normale Zahn, caule involucrique brevius piloso, 1—2 mm.

- a) *verum* Zahn, foliis utrimque subpilosus, squamis angustis acutis v. acutissimis subatris. — In alpinis supra Bex Helvetiae: Boëllaire inter Pont de Nant et Anzeindaz (Wilczek), Plateau de Fully (Ducommun) haud raro, Pointe de Savoleyres supra Frenières 2050 m (Bernoulli), Gorges d'Alesse, Haut d'Alesse (Muret), Creux de Dzéman (Favrat), Anzeindaz (Muret), Paneyrossaz (Schleicher); in iugo Albula (Cottet). Habitus saepe ut in *H. lacero* Reut.
 - b) *calvescens* Zahn, foliis praecipue exterioribus supra subtusque glabrescentibus. — Helvetia: In iugo Simplon versus Schienhorn, Blattalpe in v. Binnental (Touton), Col des Panores supra Oussannaz pr. Bex (Wilczek); Helvetia australis: In alpe Giovo et in m. Cima di Cugnone 18—1900 m (Chenevard).
 - c) *bavaricum* Zahn, foliis utrimque subpilosus, squamis sublatiusculis, ligulis dilute luteis apice disperse sparsimve pilosis. — Algovia: Gottesackerwände (Vollmann).
- 2) *belliaëris* Zahn, caule involucrique subdensius longiusque piloso minus glanduloso. — La Boëllaire supra Pont de Nant (Wilczek), Les Gorges d'Alesse (Muret).

Tab. 135, Fig. A. 1—3. *H. nigrescens* Willd. ssp. *pseudorhaeticum* 1) *normale* b) *calvescens* Zahn (forma monocephala, e valle Binnental, leg. Touton). 1. Squama. 2. Pedunculus sub involucri. 3. Foliorum margo.

1* Caulis plerumque bicephalus.

Subspecies **rhaeticiforme** Zahn (1903). in sched. herb. univers. German. Pragae. Rhizoma saepe pluricaule et rosulis nonnullis praeditum. Caulis 10—20 (—25) cm altus gracilis, inferne pilis ad 5 mm longis dilutis sat densis, superne obscuris mediocriter numerosis 3 mm longis obsitis, ubique subglandulosus sat denseque floccosus, superne (pedunculi) sat dense longeque glandulosus obscure canus. Folia radicalia numerosissima interdum ad 10 cm longa oblongo-lanceolata v. lanceolata breviter acuminata acutiuscula v. longius acuminata

acuta, in petiolum alatum sensim angustata, denticulata v. dentibus nonnullis grossioribus munita, gramineo- v. sublutescenti-viridia, interdum violaceo-subcolorata, sat dense longeque pilosa, pilis albis subrigidiusculis 3—5 mm longis, sparsim glandulosa; caulina 2—3 linearia v. inferius lanceolatum, in parte aversa (radicalia interiora saepe in nervo dorsali tantum) subfloccosum. Acladium 1,5—5 cm ($-\frac{1}{2}$ totius caulis) longum, rami primarii 0—1—2, inferior interdum cauli fasciatus, capitula (1—) 2—3. Involucrum 11—13 mm longum semiglobosum, squamae angustae obscurae longe acuminatae acutae, sat dense canopilosae, 2—2,5 mm, breviter subglandulosae, effloccosae. Bractee 1—2 lineares. Flores saturate lutei, ligulae apice sat longe ciliatae, stylus niger.

Foliis sat dense longeque pilosis insigne, ssp. *reichartensi* et *subeximio* affine.

Stiria: In m. Stuhleck pr. Muerzzuschlag (G. Beck).

Subspecies **nigrescentiforme** Zahn, in Koch Syn. (1901) p. 1845; Hierac. d. Schweiz (1906) p. 384. Caulis gracilis v. crassiusculus (10—) 15—25 (-30) cm altus dense floccosus breviter pilosus, pilis 1—2,5 mm longis basi obscuris apice dilutis, tenuiter subglandulosus. Folia obscure sordideve viridia v. sublutescenti-viridia submolliora, radicalia numerosa supra subtusque sparsim mediocriterve, in margine petioloque subdense pilosa, 0,5—3 mm, tenuiter subglandulosa, effloccosa, exteriora minora interdum parva obovato-spathulata, rotundata v. obtusa saepe mucronata subcito in petiolum alatum attenuata denticulata v. irregulariter subdentata, interiora maiora oblongo- vel lanceolata spathulata obtusa v. acutiuscula plerumque apice \pm plicata irregulariter dentata v. grosse dentata, dentibus \pm triangularibus, basin versus longius sensimque in petiolum brevem v. sublongum angustata; caulina 1—2, inferius lanceolatum, summum anguste lanceolatum v. lineare in 1—3 bracteis lineares saepe subfoliaceas transiens. Caulis monocephalus v. haud raro furcato- 2 (-3) cephalus, interdum 1—2 caules laterales 1—2 cephalis evoluti, acladio brevissimo v. plerumque $\frac{1}{3}$ — $\frac{1}{2}$ ($-\frac{1}{4}$) totius caulis longo. Involucrum 10—15 (-16) mm longum ventricosoglobosum denique saepe latissime depressum \pm obscurum; squamae angustae, rarius latiusculae, acutiusculae v. acutissimae, pilis apice canescentibus 1,5—2,5 mm longis sat dense pilosae, minute subglandulosae effloccosae. Flores fere semper breviter tubulosi apice discissi, stylis atris longissime exsertis.

Helvetia: In m. Feuerstein v. Entlebuch (Bruegger), Klimsenwand in m. Pilatus (Herb. Kaeser), Weisstannental: in alpe Scheibbs et inter alpes Martella et Tamona (Wilczek), in montibus Kurfürsten: in alpe Hinterriese (Schlatterer), Niederenalpe—Schlavigalpe (Bruegger), Brueggerhorn pr. Arosa (Bahumeier), Staetzeralpe (Bruegger), in alpihus Sarganser- et Segnesalpe (Moritzi, Muret), Graue Hoerner (Correns), Val Avers (Kaeser), in iugo Spluegen 1950—2000 m (Zahn), St. Maria in v. Medels (Muret), Piz Mundaun 2050 m, Guener Alpe, Heidebuehl ad m. Piz Beverin supra Glas 2100 m (Steiger).

Tab. 138, Fig. B. 3—5. *H. nigrescens* Willd. ssp. *nigrescentiforme* Zahn (e iugo Spluegen legi). 3. Squama. 4. Pedunculus sub involucrio. 5. Foliorum margo.

Subspecies **valpiorae** Zahn, in Schinz et Kell., Fl. d. Schw. ed. 2 II (1905) p. 314; Hierac. d. Schweiz (1906) p. 384. Planta robusta 20—30 cm alta ubique mediocriter sat denseve pilosa, 2—3 (-4) mm, caule gracili v. crassiusculo dense floccoso, sub involucrio mediocriter sat longeque glanduloso monocephalo v. profunde furcato- 2-cephalo, interdum 1—3 caulibus lateralibus 1—3 cephalis circumdato. Folia radicalia numerosa magna longe petiolata, pleraque irregulariter et saepe valde grosse dentata, dentibus late triangularibus munita; caulina 1—2 lanceolata v. summum lineare. Involucrum magnum 15—18 mm

longum semiglobosum basi denique subtruncatum, canescens, squamis sublatiusculis e basi latiuscula longe acuminatis, acutis v. acutissimis, pilis canescentibus basi obscuris 1.5—2.5 mm longis subvillosis, sparsim minutissimeque glandulosis, exterioribus saepe subviridibus. Ligulae luteae, dentibus angustis sat dense pilosis saepe longis, interdum subtubulosae. Stylus niger.

Caule robusto, foliis involucrisque magnis, squamis exterioribus saepe subviridibus insigne.

Praecipue in Engadina superiore: Maloja (Bruegger), ad torrentem Ordlegna vallis Muretto 1900 m (Hegi), Sils (Touton), Val Bevers (Kraetli, Touton); Val Piora: ad meridiem lacus Ritom (Bernoulli), Camoghé (Muret); Col di Trona supra Introbbio ad lacum Comersee 2000 m (Wilczek); Rhaetia: inter Parpan et Churer Joch (Touton), Sertigtal (Zahn).

Subspecies **sphaerocalathium** Handel-Mazzetti et Zahn. Caulis (10) ad 30 cm altus gracilis v. crassiusculus dense floccosus, superne subcanotomentosus, sparsim minuteque, superne paulo densius glandulosus, pilis mollibus canescentibusque 2—3 mm longis sat dense vestitus, 1—2 — (rarissime 3—) cephalus. Folia radicalia sat magna mollia brevius longiusve petiolata, elliptico-, oblongo-lanceolata v. lanceolata, exteriora saepe obtusiuscula, in petiolum subcito contracta, v. acutiuscula, pleraque brevius longiusve acuminata acuta, basin versus sensim in petiolum alatum, v. fere usque ad petiolorum basin angustata, dentata, utrimque 2—3 dentibus mediocribus munita, ubique dense, basin versus densissime molliterque pilosa 2—4 (—5) mm, petiolis ± villosis; caulina 1—2 (—3) lanceolata subdentata v. summum lineari-lanceolatum integerrimum, in nervo dorsali subfloccosum. Acladium ad $\frac{1}{2}$ totius caulis longum, pedunculi crassiusculi. Involucrum subobscure magnum semiglobosum 15—17 mm longum denique late ventricosum; squamae latiusculae acuminatae acutiusculae v. acutae, sat dense pilosae, 1—2.5 mm, disperse minuteque glandulosae, basin versus parce-floccosae. Ligulae sat magnae, luteae apice disperse breviterque pilosae. Stylus niger.

Tirolia borealis: ad rupes inter Fotscherferner et iugum Hochgratl (de Handel-Mazzetti), Dohnalpe vallis Lesach 2300 m (Jabornegg).

Tab. 138, Fig. A. 1, 2. *H. nigrescens* Willd. ssp. *sphaerocalathium* Handel-Mazzetti et Zahn (inter Fotscherferner et Hochgratljoch, leg. Handel-M.). 1. Squama. 2. Foliorum margo.

Subspecies **nivimontis** Oborny et Zahn, apud Zahn Schedae ad Hieraciothecam Europ. (ent. III (1908) p. 22; *H. eximium* α) *genuinum* β) *pseudonigrescens* G. Schneid., Oesterr. bot. Zeitschr. (1887) p. 275; *H. decipiens* β) *orientale* G. Schneid., Hierac. Westsudet. in „Das Riesengebirge in Wort und Bild“, Heft 41 et 42 (1891) p. 27. Rhizoma saepe pluricaule. Caulis (15—) 20—25 (—30) cm altus crassiusculus, pilis canescentibus basi obscuris 2—3.5 mm longis sat dense pilosus, dense floccosus, apice obscure-subcanotomentosus mediocriterque (pedunculi) glandulosus, deorsum glandulis minutis dispersis sparsive obsitis, flexuosus. Folia radicalia numerosa v. numerosissima submollia gramineo-v. sublutescenti-viridia sat magna elongata ad $\frac{1}{2}$ totius caulis longa, in petiolum haud ita longum late v. latissime alatum longe sensimque attenuata v. fere usque ad basin attenuata sessilia, exteriora saepe lanceolata subspathulata obtusiuscula saepe subintegerrima, pleraque late lanceolata v. lanceolata acutiuscula v. acuta saepe subplicata, denticulata v. acute dentata v. dentibus nonnullis longioribus grossisve munita, utrimque sat dense, in margine floccis sparsis glandulisque minutis adspersa; caulina 1—2 parva, inferius lanceolatum saepe dentatum, superius

lineari-lanceolatum v. bracteiforme, in nervo dorsali subfloccosum. Inflorescentia monocephala v. furcato- 2—3 (—5)-cephala, acladio $\frac{1}{4}$ — $\frac{1}{2}$ totius caulis longo, ramis primariis ad 3 evolutis monocephalis, rarissime inferiore 2 cephalo. Involucrum 14—16 mm longum late ventricosum denique latissime depressum subnigrum, squamae subnigrae sublatusculae v. angustae, acuminatae obtusiusculae v. pleraeque acutae et apice intense barbulatae, effloccosae, sat dense molliterque pilosae 1,5—2 mm, mediocriter minuteque glandulosae, numerosae. Bractee 2—3 lineares subfoliaceae. Ligulae numerosae luteae subangustae, dentibus angustis sat longis distincte pilosis. Stylus initio subluteus denique brunnescens.

Forma eximia, foliis elongatis, capitulis subatris magnis stylisque initio subluteis, caulibus pedunculisque crassiusculis insignis et formulae *calenduliflorum* < *silvaticum* optime respondens.

In cacumine m. Spiegltitzer Schneeberg, 1420 m, ad limites Moraviae et Silesiae, Heiligenhübel in montibus Gesenke, 1400 m (Oborny).

Exsiccata: Zahn, Hieracioth. Europ. no. 275.

Tab. 140. *H. nigrescens* Willd. ssp. *nivimontis* Ob. et Z. (e m. Spiegltitzer Schneeberg, leg. Oborny). 1. Dentes ligularum. 2. Squama. 3. Pedunculus sub involucri. 4. Foliorum margo.

Subspecies **subeximium** Zahn, in Koch Syn. (1901) p. 1842: *H. erimium* G. Beck. Fl. N.-Oesterr. (1893) p. 1302 p. p. Rhizoma crassum saepe pluricaule. Caulis (6—) 15—20 (—25) cm altus gracilis, dense molliterque pilosus, dense floccosus, subglandulosus. Folia radicalia numerosa sordide viridia, submollia, plerumque sat magna breviter v. sat longe petiolata, in petiolum subalatum brevius longius attenuata, exteriora plerumque parva v. emarcescens, elliptico- v. lanceolato-spathulata obtusa v. acutiuscula, subintegerrima v. subdentata saepe glabriora, interiora maiora ad 10:2 cm longa \pm late lanceolata v. lanceolata breviter acuta v. acuta utrinque \pm aequaliter attenuata v. basin versus citius contracta, dentibus parvis v. mediocribus acutis apice glanduliformibus paucis v. subnumerosis munita, omnia utrinque sat dense, in margine minute subglanduloso densius pilosa, in petiolis subvillosa, intima pariter ac caulina in nervo dorsali subfloccosa; caulina 1—2 (—3) lineari-lanceolata v. linearia plerumque integerrima. Inflorescentia monocephala v. furcato- 2—3 cephalo, acladium (15 mm —) $\frac{1}{3}$ — $\frac{1}{2}$ (— $\frac{1}{1}$) totius caulis, rami primarii 0—1 (—2) remoti monocephali. Involucrum 15—17 mm longum semiglobosum obscure canescens; squamae obscurae angustae acutae (exteriorae interdum acutiusculae), apice barbulatae sat dense pilosae glandulosaeque, effloccosae. Bractee 1—2 subulatae. Flores dilute lutei apice subpilosi, stylus obscurus.

Austria inferior: In pratis alpinis culminum m. Wechsel, c. 1700 m (G. Beck, Wołoszczak); Stiria: Edelsteig et Voistaler Huette in m. Hochschwab 1700 m (de Benz, Nevole).

Tab. 139, Fig. B. 4, 5. *H. nigrescens* Willd. ssp. *subeximium* Zahn (e monte Wechsel, leg. Wołoszczak). 4. Squama. 5. Pedunculus sub involucri.

Subspecies **bructerum** Fries, Symb. (1848) p. 72 (sub *H. alpino*); *H. nigrescens* Willd. ssp. *bructerum* Zahn, in Koch Syn. (1901) p. 1844. Caulis 12—30 cm altus, disperse v. sat dense pilosus, superne dense, inferne mediocriter floccosus, superne (pedunculi) sat dense, deorsum deminute glandulosus, gracilis. Folia radicalia numerosa sordide viridia saepe subglaucescentia, subrigidiuscula, parva v. saepius \pm elongata ad 15 cm longa, breviter v. longe petiolata, exteriora oblongo-spathulata obtusiuscula, saepe subcito in petiolum brevem contracta, denticulata, plerumque glabriora, pleraque \pm lanceolata v. anguste lanceolata.

saepissime in petiolum alatum longe sensimque, interdum usque ad basin angustata, \pm grosse serrato-dentata, dentibus numerosis saepe partim valde elongatis angustis glanduloso-mucronatis in petiolum descendentibus, disperse v. sat dense, in margine fere effloccoso petioloque dense pilosa, 2—5 mm. petiolis basi subvillosis, minute subglandulosa; caulina 2—3 in nervo dorsali subfloccosa, inferius radicalibus simile, reliqua parva lineari-lanceolata v. linearia bracteiformia. Inflorescentia monocephala vel furcata 2—5-cephala, acladium 4 cm ad $\frac{1}{2}$ totius caulis longum, rami primarii 0—3 valde remoti, monocephali v. inferior ad 3-cephalus. Involucrum semiglobosum ad 15 mm longum obscurum, squamae nigrae angustae, intimae angustissimae acutissimae, exteriores acutiusculae, fere immarginatae, sat dense obscureque pilosae mediocriter glandulosae effloccosae. Bractee elongatae lineares. Flores saturate lutei, ligulae apice subpilosae, stylus initio luteo-brunneus denique \pm obscurus.

In m. Bructero Hercyniae silvae; iam botanicis veteribus notum, sed ab *Hallero*, *Ehrhardo* etc. formis *H. alpini* L. adscriptum.

Tab. 136, Fig. B. 4—6. *H. nigrescens* Willd. ssp. *bructerum* Fr. (e m. Bructero, leg. Kappel). 4. Squama. 5. Pedunculus sub involucro. 6. Foliorum margo.

Subspecies **subrhaeticum** Zahn, in Koch Syn. (1901) p. 1846 (sub *H. rhaetico* Fr.); Hierac. d. Schw. (1906) p. 385. Caulis (15—) 20—30 cm altus gracilis disperse medio criverte, interdum sat dense pilosus, inferne mediocriter, superne dense sat longeque glandulosus, inferne subfloccosus, superne floccis densissimis obsitus; rhizoma interdum pluricaule. Folia radicalia subnumerosa v. numerosa sat magna subrigidiuscula viridia v. sublutescenti-viridia, brevius longiusve et late alato-petiolata, utrimque sparsim disperse pilosa v. fere glabra, in margine petioloque mediocriter, basin versus subdensius pilosa, 1.5—3 mm, mediocriter glandulosa, effloccosa, exteriora oblongo-spathulata obtusa saepe mucronata, saepe subito in petiolum contracta, glanduloso-denticulata v. basin versus \pm dentata, interiora magis elongata ad 12 cm longa, oblongo-lanceolata obtusiuscula v. acutiuscula mucronata, basin versus longe sensim attenuata, dentibus numerosis lanceolatis v. triangularibus apice glanduliformibus saepe in petiolum descendentibus irregulariter sub-sinuato- vel grosse inciso-dentata; caulina 2—3 sensim decrescentia, inferius radicalibus interioribus simile, basin versus angustatum sessile v. latissime alato-subpetiolatum, medium lanceolatum basi angustatum sessile subdentatum, summum lanceolatum v. linearilanceolatum acutum denticulatum v. subintegerrimum, in nervo dorsali subfloccosum. Inflorescentia furcata- 2- vel oligocephala, acladium $\frac{1}{5}$ —) $\frac{1}{3}$ — $\frac{1}{2}$ (— $\frac{4}{5}$) totius caulis longum, capitula (1—) 2—3 (—5). Involucrum ad 15 mm longum semiglobosum subobscurum, squamae subangustae acutae apice \pm barbulatae, pilis canescentibus 2 mm longis mediocriter numerosis, glandulis elongatis subnumerosis floccisque dispersis obsitae. Pedunculi obscure can. sat dense glandulosi subpilosi, 1—2 bracteis elongatis linearibus v. subulatis interdum subfoliaceis obsiti. Flores dilute lutei, ligulae evolutae v. subtubulosae, apice plerumque breviter denticulatae fere epilosae, stylis atris.

Helvetia: In valle Sertigtal pr. Davos, 1950 m (legi ipse).

Subspecies *eximia*, verosimiliter formulae (*bifidum*—*silvaticum*) < *alpinum* respondens, habitu et characteribus omnino *H. nigrescentis* formis inter gregem *Decipiens* et gregem *Nigrescens* intermediis adscribenda.

Tab. 139, Fig. A. 1—3. *H. nigrescens* Willd. ssp. *subrhaeticum* Zahn (e valle Sertigtal legi). 1. Squama. 2. Pedunculus sub involucro. 3. Foliorum margo.

b) *Nigrescens* Zahn.

Subspecies **rhaeticum** Fr., Epicr. (1862) p. 46; Christener, Hierac. der Schweiz (1863) p. 6: *H. fuliginosum* Lager in sched., non Laestad.; *H. Halleri* Schl. in sched. ex p.; *H. nigrescens* Christen., Mitt. Berner naturf. Ges. (1860) p. 88. Caulis tenuis v. subgracilis ± pilosus, superne canotomentosus, usque infra medium tenuiter glandulosus, usque ad basin floccosus, saepe nonnullis caulibus lateralibus praeditus. Folia rosularia viridia, 4—8 evoluta, exteriora ± ovata v. oblongo-spathulata obtusaque, reliqua oblongo-lanceolata v. lanceolata ± sensim in petiolum longum ± alatum tenuiter molliterque subvillosum angustata, obtusa v. breviter acuminata, irregulariter et ± grosse, basi saepe sinuato- v. pinnatifido-dentata, dentibus interdum in petiolum descendentibus, sat mollia, ubique pilis sat densis brevibus mollioribusque obsita, mediocriter minuteque glandulosa; caulina 1—3, inferius radicalibus interioribus simile, breviter petiolatum, superiora anguste lanceolata v. bracteiformia. Acladium brevissimum v. ad 5 cm longum, rami primarii 0—3 (—4) valde remoti mono- (rarissime 2—3-) cephalii, capitula 1—4 (—7). Involucrum 10—14 mm longum, denique globoso-ovatum, squamae angustae ± longe acuminatae acutiusculae v. acutae, intimae acutissimae, omnes obscurae, sat dense pilosae, 2—3 mm, pilis basi atris apice canescentibus, et disperse tenuiterque glandulosae. Pedunculi canotomentosi mediocriter pilosi disperseque glandulosi. Flores dilute lutei, ligulae apice subpilosae, stylus niger.

Adhuc in Alpibus Helveticis tantum inventum et Sudetorum subspeciei *nigrescens* respondens. — 1900—2200 (—2500) m.

Variat: 1) normale Zahn, Hierac. d. Schw. (1906) p. 386. Folia pro maxima parte oblongo-spathulata ± obtusaque.

a) *verum* Zahn l. c. Involucrum 10—12 mm longum, ligulae evolutae. — Helvetia occidentalis: Ballacrête, Fully, Pointe de Savoleyres, La Boëllaire (Muret, Favrat, Wilczek), Aletschbord, Rieder Furka, Eggischhorn (Bernoulli, Wolf); Zermatt: Findelental, Staffel, Schwarzsee, Riffelalp (Schleicher, Wolf); Saastal: Gletscheralp et Wolfsgrube supra Saas-Fée, Triftalp, Galen, Mattmark (Bernoulli, Muret); Arpitettaz pr. Zinal (Bernoulli); in iugo Simplon, multis locis (Favrat, Chenevard); in valle Binn haud raro (Chenevard etc.); in convallibus Münstertal, Eginental, Selkingertal, Trütztal (Favrat, Wilczek); Gletsch, Maienwand, Grimsel (Muret, Favrat); Furka, St. Gotthard (H. Christ, Bruegger); in Alpibus Bernensibus: Schwabhorn, Bachalp, Kirchstuhl supra Meiringen (Christener, Bernoulli); Helvetia centralis: Pilatus (Schinz); Helvetia orientalis: Hüfialp, Graue Hörner (Meli), Bevers (Muret); Helvetia australis: Croce Pettano 2000 m, in alpe Quadrella 2150 m, Cima di Cagnone, Val d'Efra (Chenevard), Val d'Osola, Verzasca, Poncione del Pulpito (Braun), Corte al Metto-Zotta (Chenevard). — Flora Valdostana: inter Dondena et Laris vallis Camporcher (Vaccari).

b) *stylosum* Favre et Zahn, Bull. herb. Boiss. (1903) p. 1132, ligulis tubulosis, stylis longe exsertis. — Praecipue in iugo Simplon: Sirwolten etc. (Besse, Favre).

c) *calvescens* Zahn, Hierac. d. Schw. l. c. Ubique brevius et minus dense pilosum. — Simplon, Binntal, Kirchstuhl (Besse, Favrat, Bernoulli).

- d) *macrocephalum* Zahn l. c., involucris ad 14 mm longis late ventricosis.
— Valsorey et Findental (Schleicher); an propria subspecies?
- 2) *angustifolium* Zahn, in Schinz et Keller, Fl. d. Schweiz, ed 2 II (1905) p. 314; Hierac. d. Schw. p. 387. Folia fere omnia angusta grosse dentata.
— In iugo Simplon: prope hospitium (Bernoulli), Sirwolten (Besse), Längental in valle Eginen (Kneucker). — Forma *stylosa* huius subvariationis: in iugo Simplon (Favre).
- 3) *subsilvaticum* Zahn, in Schinz et Keller l. c. Folia radicalia maiora elliptica v. obovato-spathulata; ergo habitu *H. silvatico* magis simile. — Simplon (Favrat).

Tabula 142. *H. nigrescens* Willd. ssp. *rhaeticum* Fr. 1) *normale* a) *verum* Zahn (Ad meridiem glaciei Rhône-gletscher in declivitatibus infra viam, legi ipse). 1. Dentes ligularum. 2. Squama. 3. Pilus squamarum. 4. Pedunculus sub involucrio. 5. Portio e caulis medio. 6. Foliorum margo.

Subspecies **subneglectum** Zahn; ssp. *rhaeticum* var. β) *subneglectum* Zahn, Hierac. d. Schweiz (1906) p. 387; *H. neglectum* A.-T., in J. Briquet, Herboris. Tyrol mérid., Bull. herb. Boiss. I p. 479; nec Norrl., Meddel. Soc. Fl. Fenn. III (1878) p. 65. — Caulis ad 25 cm altus gracilis sat dense pilosus, 1,5—3 mm, superne dense, basin versus sat dense floccosus, superne sparsim glandulosus. Folia rosularia plerumque sat magna et sat longe tenuiterque petiolata, sublutescenti-viridia, ubique sat dense denseve pilosa, pilis 1—2,5 mm longis albidis mollibus, praecipue in margine disperse minuteque glandulosa, effloccosa, exteriora minora ovata, media elliptica v. oblonga obtusa, intima oblongo-lanceolata acutiuscula saepe plicata, omnia basi subito in petiolum contracta v. cuneata, in petiolum dense albobillosum brevius longiusve decurrentia, irregulariter saepeque grosse dentata, a medio ad basin dentibus apice glanduliformibus heteromorphis et varie longis munita, rarius brevius petiolata; caulina 2 (—3), inferius lanceolatum, utrimque, basin versus saepe longius attenuatum, alato-subpetiolatum, dentatum vel basin versus grosse dentatum, proximum anguste lanceolatum saepe integerimum, subtus sparsim, vel in nervo dorsali tantum \pm floccosum, summum lineari-lanceolatum v. bracteiforme. Inflorescentia altefurcata, acladio 10—50 mm (ad $\frac{2}{3}$ — $\frac{1}{4}$ totius caulis) longo, ramis primariis (0—) 1—2 (—3) valde remotis saepissime monocephalis, capitula (1—) 2—3 (—6). Involucrium 9—11 mm longum semiglobosum, denique late depressum. Squamae angustae plerumque longe acuminatae acutae v. acutissimae, obscurae, fere immarginatae, pilis apice albidis ad 2 mm longis sat dense villosae, apice subbarbulatae, disperse minuteque glandulosae, basin versus sparsim floccosae. Pedunculi sat dense pilosi, 2—3 mm, breviter subglandulosi dense canotomentosi. Ligulae apice subciliatae. Stylus initio saepissime subluteus.

H. rhaetico affine, sed differt foliis densius pilosis subvillosis, glandulis ubique minus numerosis, involucriis subvillosis, squamis acutioribus, exterioribus tantum interdum minus acutis.

Helvetia australis: Corte al Metto-Zotta, Passo di Porcareccio in v. Vergeletto, Mte Ghiridone (Chenevard), in m. Camoghé (Jaeggli); Tirolia: in iugo Schlüsseljoch iuxta iugum Brenner (Harz), in iugo Sella supra Campitello (Briquet).

Tab. 141. B. 5—6. *H. nigrescens* Willd. ssp. *subneglectum* Zahn (e iugo Schlüsseljoch leg. Harz). 5. Squama. 6. Pedunculus sub involucrio.

Subspecies **nigrescens** Willd. l. c.; Zahn, in Koch Syn. (1901) p. 1845; *H. alpinum*

3) Halleri W. Grab., Flor. Siles. 3 p. 182; Koch, Syn. ed. 2 p. 526; *H. nigrescens* $\alphahumile Wimm. Fl. Schles. ed. 3 (1857); *H. nigrescens* $\alphagenuinum Uechtr., in Fiek, Fl. Schles. (1881) p. 268. *H. atratum* Griseb., Comm. (1852) p. 29; *H. alpinum-murorum* Neilr., Verh. zool.-bot. Ver. Wien (1851) p. 124; F. Schultz, Archives (1855) p. 18. Caulis (10—) 15—25 (— 35) cm altus plerumque \pm crassiusculus flexuosus, superne \pm dense v. mediocriter breviterque pilosus, 1—1,5 mm, pilis obscuris rigidiusculis, et breviter tenuiterque glandulosus, medio saepe \pm glabrescens, basin versus pilis 1—2,5 mm longis dilutis \pm densis obtectus, superne modice denseve floccosus, usque ad basin subfloccosus sparsissimeque glandulosus. Folia sordide viridia submollia, modice, in margine nervoque dorsali dense pilosa sparsimque glandulosa, pilis dilutis mollibus, 1,5—2 mm longis, in petiolis densis ad 3 mm longis; radicalia numerosa longe petiolata, elliptica v. subrotundata, v. ovalia, v. elliptico- v. oblongo-lanceolata, apice rotundata v. obtusa mucronata, abrupte in petiolum late alatum angustata, a medio ad basin sinuato-dentata, vel (praecipue longiora) grosse piunatifido-dentata, dentibus varie magnis apice glanduliformibus, interdum valde elongatis minoribus immixtis; caulina (0—) 1—2 (—3), interdum magna, inferius petiolatum oblongo-lanceolatum apice subobtusum v. acutiusculum, in petiolum late alatum sensim angustatum ad 12—15 cm longum, v. sessile basi angustatum, \pm profunde dentatum, saepe dentibus irregularibus partim valde magnis diremptis munitum, proximum simile vel minus evolutum saepe infra medium caulem insertum, interdum in nervo dorsali pariter ac summum subfloccosum, summum lineare v. bracteiforme. Inflorescentia indeterminata laxissime paniculata v. furcata valde suprafastigiata, acladio brevissimo vel ad $\frac{1}{4}$ (rarius ad $\frac{3}{4}$) totius caulis longo, ramis primariis (0—) 1—2 (—3) ex axillo foliorum ortis obliquis v. arcuato-erectis longis crassiusculis 1—3 cephalis, capitula (1—) 2—7 (—9). Involucrum globosum denique subtruncatum (11—) 14—15 (—16) mm longum subnigrum, squamae atrae, pleraeque immarginatae, subadpressae latiusculae, exteriores obtusiusculae, interiores acuminatae acutiusculae, rarius acutae, omnes setis brevibus nigris copiosis, pilis obscuris longioribus sparsis immixtis glandulisque numerosis vestitae, basi parum floccosae, intimae plerumque viridi-submarginatae. Pedunculi crassiusculi apice subincrassati, glandulis copiosis setisque dispersis nigris brevibus et floccis \pm densis obsiti, indumento deorsum subabrupte deminuto. Flores aurei, dentibus breviter albo-subpilosis, stylus initio subluteus, denique obscurior, siccus obscurus.$$

α) **genuinum** (ut supra). In montibus Asciburgensibus (990—) 13—1600 m haud infrequens: Koppenplan, Kiesberg, Auparand, Weisse Wiese, Kl. Koppe, Melzerlehne, Langer Grund, Peterbaude, Krkonoš, Pantschewiese, Kesselkoppe, Hohes Rad, Elbwiese, Alte schlesische Baude, Schlingelbaude, Rehborn (Tausch, Wimm. et Grab., Pax, Schneider, Sagorski). — Babia góra (Besser, Wimmer); Tatra: Kondraczka 2000 m, Granaty, Giewont, (Wołoszczak), Krywán, Łomnica, Lodowy (Rehmann), Scianki (Kotula), Kesmarker Grünsee (Sagorski); distr. Stanisławow: in alpe Ihrowiszczce raro, in m. Sywula frequens (Rehmann). Carpathes Hungaricae-Galicicae: Pikuju! Hnetiesia! (Wol.); Transilvanicae: in m. Schuler pr. Coronam! [Brassö], leg. Römer. — In montibus Biharia: a iugo La Jocu usque ad culmen m. Cucurbeta 1700—1770 m (A. Kerner).

β) **hnetiesae** Zahn. Caulis ad 30 cm altus modice sat denseve pilosus, 2—3 mm, acladio ad 6 cm longo, ramis 4 valde remotis monocephalis, foliis 4, inferioribus lanceolatis sat longe acuminatis \pm sinuato-dentatis obsitus. Capitula 5,

terminale maius 12—15 mm longum denique latissime depressum, squamae subangustae acutiusculae v. acutae, intimae acutissimae, pilis dilutis basi atris dense pilosae, 2—3 mm, disperse glandulosae. Pedunculi cani modice subbreviterque glandulosi \pm pilosi, acladium c. 4 bracteis subfoliolaceis obsitum. Stylus initio luteus. — In m. Hnietiesa ad limites Galiciae et Hungariae (Wołoszczak).

Tab. 141, Fig. A. 1—4. *H. nigrescens* Willd. ssp. *nigrescens* α) *genuinum* Zahn (Riesengrund, leg. Bänitz). 1. Dentes ligularum. 2. Squama. 3. Pedunculus sub involucrio. 4. Foliorum margo.

Subspecies **stiricolum** Zahn. Caulis ad 30 cm altus gracilis v. crassiusculus, breviter albo-subpilosus, 1—2 (—2,5) mm, superne dense floccosus sparsim glandulosus, basin versus subeffloccosus subglandulosus. Folia radicalia viridia, saepe subglaucescentia, subrigidiuscula utrimque modice sat denseve pilosa, pilis in parte superiore rigidiusculis, subtus mollibus, in margine nervoque dorsali numerosioribus 1—3 longis, in margine disperse minuteque glandulosa, omnia late alato-petiolata magna, exteriora obovata rotundata minora basi subito contracta, reliqua ovato-, elliptico- v. oblongo-lanceolata obtusiuscula v. acutiuscula mucronata, basin versus cito subsensimve angustata in petiolum decurrentia, omnia irregulariter grossequ sinuato- v. inciso-dentata, dentibus in petiolum descendentibus triangularibus v. lanceolatis plerisque antrorsum versis; caulina plerumque 2, inferius oblongo-lanceolatum utrimque acuminatum sessile v. subpetiolatum, basin versus valde grosse v. inciso-dentatum, summum lanceolatum vix denticulatum subtus interdum parum floccosum. Inflorescentia laxissima paniculata v. altefurcata, acladium 2—5 cm longum, rami primarii (0—) 1—2 (—3) valde remoti, inferior ex axillo folii caulini inferioris ortus saepe abortus, mono- v. inferiores 2—3-cephali, capitula (1—) 2—5 (—7). Involucrium semiglobosum (10—) 12—15 mm longum denique latissime depressum, obscurum, squamae latiusculae acuminatae obtusiusculae v. acutiusculae apice distincte barbulatae, interiores tantum acutae obscure viridi- vel dilute submarginatae, omnes pilis 1,5—2 mm longis basi atris apice subdilutis mediocriter numerosis v. sat densis, glandulis subelongatis sat copiosis et praecipue in margine basin versus floccis dispersis mediocriterve numerosis obsitae. Pedunculi obscure canotomentosi, sat dense pilosi, 1—2,5 mm, mediocriter sat denseve glandulosi, pilis basi atris apice subdilutis et bracteis 1—2 linearibus saepe subfoliolaceis obscuris v. subviridibus obsiti. Flores saturate lutei, ligulis anguste sat longeque dentatis breviter subpilosus, stylis luteo-brunneis denique obscuris.

Variat: α) *genuinum* Zahn. Ut supra. — Stiria superior: In alpe Passeggeralm versus Tweng, sol. calc., 1600 m, Hradofen pr. Predlitz, sol. schist., 1800 m, Predingerhütte in m. Preber, sol. schist., 1800 m (B. Fest).

β) **nigrescenticeps** Zahn, foliis saepe longius petiolatis gramineo-viridibus, plerisque oblongo-lanceolatis utrimque attenuatis brevius longius acuminatis acutiusculis vel acutis tantum denticulatis v. subdentatis v. interdum dentibus nonnullis maioribus obsitis; caulinis lanceolatis, inferiore elongato utrimque longissime angustato acuto. — Hradofen pr. Predlitz 1900 m, St. Margarethen pr. Neumarkt, 1300 m (B. Fest).

Tab. 143, Fig. A. 1—2. *H. nigrescens* Willd. ssp. *stiricolum* α) *genuinum* Zahn (Passeggeralm pr. Tweng, leg. B. Fest). 1. Squama. 2. Pedunculus sub involucrio. [3 ad fig. B pertinet].

Subspecies **stellulatum** Zahn (*pseudocochleare* olim in sched. nonnull.). Caulis (10—) 15—25 (—30) cm altus gracilis, pilis dilutis basi obscuris 2—3,5 mm longis subrigidiusculis v. submollibus ± patentibus subnumerosis v. subdensis vestitus, usque ad basin dense v. densissime floccosus subglandulosus, superne albo- v. canotomentosus. Folia viridia saepe subrigidiuscula utrimque modice, superne rigidiuscule pilosa, in margine nervoque dorsali et praecipue basin versus densius pilosa saepe subvillosa, 1—2 (—3) mm, disperse minuteque glandulosa, *in margine* interdum subundulato *semper* ± *floccosa*; radicalia ± late alato-petiolata, elliptico- v. oblongo-lanceolata, basin versus longe sensim angustata, exteriora minora obtusiuscula submucronata, interiora acutiuscula interdum apice ± plicata, omnia glanduloso-denticulata v. subdentata, subtus subfloccosa; caulina 3—5 subcito decrescentia, inferiora subpetiolata lanceolata denticulata, reliqua angustiora acutiora basi angustata sessilia, summa linearia in bracteis decrescentia, *omnia subtus modice sat denseve, in parte superiore sparsim mediocriterve floccosa* saepe subcanescenti-viridia. Inflorescentia laxa paniculata v. ± furcata, acladium (5 mm —) 2—5 (—8) cm longum, rami primarii (0—) 1—3 (—5) ex axillo omnium foliorum caulinarum orti oblique erecti, inferiores longi subfoliati v. bracteis linearibus foliolaceis obsiti 1 (—3) cephalis, capitulis inferioribus plerumque abortis; interdum caules laterales evoluti. Capitula (1—) 2—6 (—10). Involucrum 11—14 mm longum semiglobosum denique late ventricosum subobscure, pilis 1—2 mm longis canescentibus sat dense pilosum; squamae subatrae e basi latiuscula acuminatae ± obtusae v. acutiusculae v. intimae tantum acutae, apice subbarbulatae, glandulis dispersis v. interdum modice numerosis brevissimis obsitae, fere effloccosae. Pedunculi albo- v. canotomentosi, pilis apice albidis basi atris mediocriter numerosis v. sat densis 2—3 mm longis glandulisque dispersis obsiti. Flores submagnum lutei v. aureo-lutei, ligulis apice breviter ciliatis, stylis obscuris, acheniis atris.

Subspecies *eximia*, foliis caulinis ubique subfloccosis insignis et verosimiliter inter *H. alpini* ssp. *pseudofritzei* et *H. silvaticum* intermedia, sed *H. pseudofritzei* magis affinis.

Variat: 1) *pseudocochleare* Zahn, phyllopodum minus 20 cm altum, foliis caulinis 2—4 (—5) subcito decrescentibus munitum. — Tirolia: in pratis Pfranzwiesen pr. Oberlesach haud procul a Kals (Pichler); Carinthia: in iugo Plöcken (Pichler et in iugo Mallnitzer Tauern (de Benz).

2) *stygiiforme* Zahn, hypophyllopodum, 25—30 cm altum, foliis caulinis 6—8 sensim decrescentibus, summis ± bracteiformibus. — In summis alpibus iuxta iugum Plöcken (Pichler).

Tab. 143, Fig. B. 3—5. *H. nigrescens* Willd. ssp. *stellulatum* Zahn 1) *pseudocochleare* Zahn (e pratis Pfranzwiesen pr Oberlesach, leg. Pichler). 3. Foliorum margo. 4. Squama. 5. Pedunculus sub involucrio.

87. Hieracium atratum Fries = **alpinum** < **silvaticum** Zahn. — Fries, Symb. (1848) p. 105; Epicr. (1862) p. 95; Hartmann, Fl. Scand. ed. 8 p. 24; Rehmann, Oesterr. bot. Zeitschr. (1873) p. 213; Neilreich, Krit. Zus. Hierac. (1871) p. 44; Fiek, Fl. Schles. (1881) p. 275; Zahn, Hierac. d. Schweiz (1906) p. 387; *H. alpinum* 2) *nigrescens* Koch, Syn. ed. 2 p. 526 p. p.; *H. nigrescens* Wimm., Fl. Schles. ed. 3 (1857) p. 310; *H. alpino* — *vulgatum* F. Schultz. Archives (1855) p. 19.

Caulis (10—) 15—30 (—60) cm altus plerumque strictus, tenuis v. gracilis, ± striatus v. angulato-striatus, inferne interdum rubescens, usque ad basin v. altius ± floccosus glandu-

losusque, basin versus subpilosus. Folia rosularia 3—6 obscure gramineo- v. sublutescenti-viridia, saepe mollia, subtus pallidiora, utrimque mediocriter v. sat dense v. subtus densius pilosa, rarius \pm glabrescentia, in margine \pm dense ciliata, 1—3 mm, et disperse sparsimve, rarius modice glandulosa, in nervo dorsali, rarius folia caulina in tota parte aversa subfloccosa, exteriora brevius petiolata, plerumque ovata, abrupte in petiolum contracta, obtusa, interiora longius petiolata, oblongo v. lanceolata, in petiolum sensim angustata, obtusa v. acuta, omnia praecipue basin versus leviter v. profunde sinuato-dentata v. -serrata, interdum nonnullis dentibus magnis praedita, rarius tantum denticulata; folia caulina 1—2 (—4, rarissime compluria) plerumque cito decrescentia, inferius petiolatum radicalibus simile, sequentia lanceolata basi cuneata sessilia v. subpetiolata, dentata, summum lineari-lanceolatum v. lineare. Inflorescentia alte furcata v. laxe paniculata, acladium 8—50 mm longum, rami primarii 1—4 (—5) remoti erecti saepe stricti, simpliciter, rarius dupliciter ramosi, capitula 2—7 (—20). Involucrum 10—13 (—15) mm longum oblongo-ovatum, squamae sublatiusculae v. angustae acuminatae obtusiusculae v. (interiores) acutiusculae v. acutae apice \pm barbulatae, nigrae v. obscurae (interiores \pm dilute v. subviridi-marginatae), mediocriter v. sat dense pilosae glandulosaeque, pilis 1—1,5 mm longis canescentibus nigris intermixtis, v. \pm epilosae densissime glandulosae, subeffloccosae v. modice floccosae. Pedunculi superne tomentosi, mediocriter v. (superne) dense nigro-glandulosi, epilosi v. disperse v. mediocriter pilosi, pilis obscuris v. nigris, 1 mm longis. Flores plerumque aureolutei, ligulae subpilosae, apice mediocriter sparsimve ciliatae, stylus obscurus, achenia fere atra.

In ditione *H. alpini* sed saepe magis descendens. Scandinavia, Rossia borealis Scotia, in Sudetis, in Alpibus Carpatho-Transsilvanicis, in Alpibus Austriae, Bavariae, Italiae borealis et Helvetiae. — Flor. Iul., Aug.

Dispositio gregum:

- 1) Folia \pm sensim in petiolum angustata distincte glandulosa.
- a) *Atratum* Zahn, in Koch Syn. (1901) p. 1847. Involucra et pedunculi pilis glandulisque varie mixtis obsita; folia sordide v. sublutescenti-viridia.
- b) *Polycephalum* Zahn, in Koch Syn. p. 1848. Involucra et pedunculi dense glandulosa sparsim pilosa; folia caulesque dilute gramineo-viridia.
- c) *Schroeterianum* Zahn, Hierac. d. Schweiz (1906) p. 388. Involucra et pedunculi epilosa, glandulis numerosissimis saepe longis munita. — *Transitus atratum* \rightarrow *Bocconeii*.
- 1* Folia ovata v. lanceolata basi truncata, rotundata v. cito angustata, fere eglandulosa.
- d) *Submurorum* Zahn, in Koch Syn. l. c. Habitu *H. silvatici*.
- a) *Atratum* Zahn.

Subspecies **dolichaetum** Arv.-T. et Chenev., Bull. Soc. bot. Genève IX p. 9; Zahn, in Schinz et Keller, Flora d. Schw. ed. 2 II (1905) p. 314; non Koch Synops. (1901) p. 1850; *H. atratum eualpestre* Zahn, in Koch Syn. p. 1847. — Caulis 25—45 (—50) cm altus, superne mediocriter (0,5—1 mm), inferne subdense pilosus, 2,5 mm. Folia rosularia exteriora elliptico-v. oblongo-spathulata obtusa rotundata, interiora oblonga v. oblongo-lanceolata acutiuscula v. breviter acuta, exteriora cito, interiora sensim in petiolum alatum angustata, mollia, lutescenti-sordideque viridia, raro subpurpureo-colorata, supra disperse pilosa, 0,5 mm, subtus modice molliterque pilosa, 0,5—1 mm, in margine nervoque dorsali et in petiolo dense pilosa, 1—2,5 mm; et disperse glandulosa, leviter sinuato-denticulata v. plerumque dentata, dentibus numerosis, caulina 2 oblongo-lanceolata v. lanceolata pluridentata, interdum tertium folium caulinum evolutum, lineare, vel in formis humilibus unum tantum evolutum. Acladium 15—50 mm longum, rami

primarii 1—5, interdum ex omni ala orti arcuato-erecti simpliciter ramosi, capitula (2—) 3—7 (—12). Involucrum (9—) 10—11 mm longum ovatum, squamae subangustae acutiusculae v. acutae (exterioribus multo angustiores), subnigrae, mediocriter pilosae, sat dense glandulosae, fere effloccosae. Pedunculi consimiles, superne obscure cani. Flores saturate lutei, ligulae apice sparsim ciliatae.

H. atrato typico Sudetorum in Alpibus respondens, usque ad 2300 m ascendens.

Variat: $\alphagenuinum Zahn, in Schinz et Kell., Fl. d. Schweiz (1905) p. 315. Folia fere aequaliter sinuato-denticulata vel -dentata, mollia; involucri pedunculique modice pilosa.$

- a) *verum* Zahn l. c. Capitula 2—6. — Helvetia: Simplon (Favre, Chenevard etc.), in alpe Esserze (Wolf), in convallibus Binnental, Blitzinger-, Selkinger-, Eginen- et Gerental (Favrat, Lager etc.), Riederalp (Bernoulli), Eggischhorn, Oberwald—Grimsel—Maienwand—Furka (Chenevard, Favrat etc.); Göschener Alpe, Innertkirchen-Guttannen, Gotthard (Gisler, Thellung, Christener); Tannenalpe in v. Melchtal (Brügger); Val Piora (Bernoulli), Pizzo del Ambro, Frasco in v. Verzasca, Mte Cagnone (Chenevard), Mte Garzirola—Camoghé (Jäggli). — Planpraz pr. Chamonix (Hegelmaier).
- b) *helveticum* Zahn, in Koch Syn. (1901) p. 1847. Rami simpliciter vel dupliciter ramosi, capitula minora numerosiora ad 15 evoluta, inflorescentia indeterminata. — Helvetia: Eginen- et Gerental (Lagger sub nom. *nigrescens*).

Aliae formae in Tirolia: Galtür (Zimmerer), Vent in v. Oetzthal (Wettstein), Stallsims in m. Glungezer (Murr), Pfitscher Jöchl (v. Heufler), Rittener Horn (C. v. Hepperger), Grödner Jöchl (de Benz), Marbe in v. Mühlwald (Treffer), Ahrntal (Ausserdorfer), Weitfeld pr. Luttach, Göge in v. Weissenbach (Treffer), in alpe Nemes pr. Sexten (Huter), Hofalpe et Gössnitz pr. Lienz (Scheitz), Schleinitz et Thurneralpe: Gamsstallwand pr. Lienz (Gander), Bergeralpe in v. Virgental (Ausserdorfer), Tschamp pr. Kals (Huter).

- β) **pseudonigrescens** Zahn in Koch Syn. p. 1847 p. p.; Schinz et Kell., Fl. d. Schweiz ad 2 II (1905) p. 314; Hierac. d. Schw. (1906) p. 389. Caulis haud raro ad 50 cm altus ad 10-cephalus; folia radicalia \pm rigidiuscula oblona obtusa v. oblongo-lanceolata v. lanceolata acuta, in petiolum plerumque sat brevem breviter longeve attenuata, \pm grosse v. profunde inciso-dentata v. argute subserrato-dentata, multidentata, saepe elongata. Involucrum 9—10,5 mm longum, squamae, pariter ac pedunculi, tantum disperse pilosae sed plerumque densissime longeque glandulosae.

- a) *verum* Zahn, foliis subpilosis. — Eginental (Zahn), Maierwand (Favrat), Schächental: Griestal (Correns); Val Piora (Bernoulli); Engadina: Maloja-Forno (Touton), Samaden (Candrian), Scarlital (Schröter); Rhaetia: Lugnetztal: Ruinas neras et alpe Sezner supra Lumbrein (Steiger).

- b) *subhirsutum* Zahn, Hierac. d. Schweiz p. 389, foliis subovato-lanceolatis brevioribus, in parte superiore sat dense rigidiusculeque pilosis, caulino saepe uno tantum evoluta, ligulis dense ciliatis. — Maierwand (Zahn).

- γ) **Uschianum** Zahn, Hierac. d. Schweiz (1906) p. 389. Folia rosularia exteriora

abrupte in petiolum contracta, pariter ac interiora irregulariter et valde grosse serrato-dentata, dentibus saepe acuminatis; involucrium 12 mm longum denique depressum semiglobosum, squamis e basi lata acuminatis acutiusculis v. acutissimis. Folium caulinum plerumque unum. Capitula 3—5. — Rhaetia: In valle Sertig prope Davos 1900 m (Zahn).

Tab. 144, Fig. A. 1—4. *H. atratum* Fr. ssp. *dolichaetum* A.-T. a) *genuinum* a) *verum* Zahn (in v. Eginental legi). 1. Apex ligularum. 2. Squama. 3. Pedunculus sub involucrio. 4. Foliorum margo.

Subspecies **zinkenense** Pernhoffer, Hierac. Seck. exs. II (1895) no. 102 et Oesterr. bot. Zeitschr. (1896) p. 237; Zahn, in Koch Syn. (1901) p. 1847. — Caulis ad 25 cm altus tenuis, breviter subpilosus, superne subfloccosus et subglandulosus, basin versus ± effloccosus eglandulosusque, sed densius longiusque pilosus, 3—4 mm. Folia radicalia subparva sat longe petiolata late lanceolata v. pleraque lanceolata utrimque attenuata acuminata acutiuscula v. acuta, obscure sordide viridia, argute denticulata v. subserrato-dentata, utrimque et in margine sparsim glanduloso breviter subpilosa, in nervo dorsali petioloque modice longiusque pilosa, 3—4 mm; caulina 1—3 alato-subpetiolata v. basi angustata sessilia, radicalibus similia, superiora lineari-lanceolata subtus subfloccosa. Inflorescentia indeterminata 2—5-cephala, acladium 10—60 mm longum, rami primarii ad 4, plerumque tantum 1—2, remoti. Involucrium (8—) 10—11 mm longum ovatum, modice breviterque pilosum, sat dense minuteque glandulosum, subeffloccosum, squamae subangustae acuminatae. Pedunculi canescentes, pilis obscuris apice dilutis subpilosi, disperse mediocriterve glandulosi. Flores saturate lutei sparsim ciliati.

Stiria: In m. Seckauer Zinken (Pernhoffer), Hühnerkar pr. Wald (Khek), Teichengraben in m. Zeyritzkampel (de Benz), Türkentörl pr. Gleinalpe (Preissmann), Stuhleck (G. Beck), Häuselealpe in m. Hochschwab (de Benz); Austria inferior: Vorauerschwaig in m. Wechsel 1450 m (G. Beck); Carinthia: Koralpe (de Benz).

Tab. 144, Fig. B. *H. atratum* Fr. ssp. *zinkenense* Pernh. (ex alpe Häuselealpe m. Hochschwab, leg. de Benz). 5. Squama. 6. Pedunculus sub involucrio.

Huic gregi etiam subspecies sequentes inserendae sunt:

1) Subspecies **atratum** (Fries l. c.) Zahn, in Koch Syn. (1901) p. 1847, squamis atherimis e basi latiuscula acuminatis obtusiusculis v. acutiusculis, capitulis (1—) 2—4 (—7) semiglobosis 11—12 mm longis, foliis radicalibus exterioribus obovato-spathulatis apice rotundatis, interioribus oblongis v. lanceolatis, in petiolum longum sensim angustatis, acutis v. obtusiusculis, tantum supra basin profundius dentatis v. tantum denticulatis, caulinis 1—2 late v. anguste lanceolatis acutis. — In Sudetis et in Tatra.

2. Subspecies **ihrowyszczense** Zahn. — Caulis 30—35 cm altus arcuato-erectus, maculatus, breviter subpilosus, superne dense floccosus minuteque glandulosus, usque ad inferiorem tertiam partem subfloccosus. Folia radicalia numerosa elliptica et acutiuscula v. ovato- v. oblongo-lanceolata et ± longe acuminata, in petiolum ± alatum cito sensimve angustata, dilute subluteo-viridia, glanduloso-serrato-dentata, basi dentibus grossioribus munita, utrimque breviter subpilosa, in margine petioloque disperse minuteque glandulosa, novella dense pilosa, intima in nervo dorsali subfloccosa; caulinum 1 lanceolatum glanduloso-dentatum, in parte aversa disperse, in nervo dorsali sat dense floccosum. Acladium 10 mm longum, rami 3 remoti, ordines axium 3, capitula 4—7. Involucrium crasse ovato-cylindricum 12—14,5 mm longum, pilis modice numerosis brevibus obscuris, glandulisque densis obsitum,

squamae atrae sublatiusculae acutiusculae v. acutae apice barbulatae, exteriores basin versus in margine disperse floccosae, interiores viridi-submarginatae. Pedunculi densissime longeque atroglandulosi sparsim pilosi dense floccosi, caulomata superne obscure glandulosa sparsim pilosa. Flores saturate lutei, apice breviter ciliati, stylus subobscurus.

In montibus Wysoka et Kiputa ad flumen Lomnitz prope Podluty in Carpathis Galiciae (Wołoszczak)!

Verosimiliter formulae (*transsilvanicum*—*silvaticum*) > *alpinum* respondens.

Variat: β) **amphitrichum** Zahn, foliis utrimque molliter pilosis, caule usque ad basin floccoso, capitulis magnis pariter ac pedunculi dense glandulosi et pilis modice numerosis atris brevibus obsitis. — In m. Ithrowyszcze ad fl. Lomnitz (Wołoszczak).

Annotatio: Subspeciem gletschense Zahn, Hierac. d. Schweiz (1906) p. 389 et f. *subfloccosum* variationis β) speciei *dolichaeti* l. c. nunc *H. rauzensi* adscribo.

b) **Polycephalum** Zahn.

Subspecies **polycephalum** Velenovsky, Oesterr. bot. Zeitschr. (1883) p. 390; Zahn, in Koch Syn. (1901) p. 1848; *H. atratum* 3) *robustum* G. Schneider, in „Das Riesengebirge in Wort und Bild“ Heft 49 et 50 (1893) p. 25. Caulis (25—) 40—60 cm altus gracilis strictus 2—3 foliatus, a medio v. interdum iam supra basin ramos 2—4 (—6) elongatos arcuato-ascendentes evolvens, praecipue basin versus subpilosus, saepissime viridis. Folia dilute gramineo-viridia subtenuia mollia, radicalia 3—6 magna oblongo-lanceolata v. lanceolata utrimque attenuata, v. oblonga basi fere truncata, rigidiuscule subpilosa, in margine \pm sparsim glanduloso grosse arguteque dentata, basin versus grosse inciso-dentata, dentibus apice longe glanduliformibus saepe in petiolum descendentibus; caulina \pm alato-petiolata longe acuminata, praecipue basin versus longe arguteque (fere dupliciter) dentata, summa plerumque basi angustata sessilia. Inflorescentia paniculata valde suprafastigiata, acladium brevissimum v. ad 40 mm longum, capitula 8—25, ordines axium 3 (—4). Involucrum 13—14,5 mm longum, squamae lineari-lanceolatae nigrae, interiores viridi-submarginatae, omnes pariter ac pedunculi dense floccosi glandulis numerosissimis pilisque dispersis canescentibus nigris immixtis obsitae, apicem versus subglabrae, caulomata subglandulosa. Ligulae apice subciliatae. Achaenia initio rufo-brunnea, denique subatra.

In montibus Asciburgensibus in declivitatibus graminosis inter 12—1400 m: Kesselkoppe, Kiesberg, Ziegenrücken, Kleine Schneegrube (Velenovsky), Silberquelle, Gehänge, Mezerlehne, Kleiner Teich (G. Schneider), Seiffenlehne (A. Schultz).

Verosimiliter formulae *Fritzei* > *silvaticum* v. *nigrum*—*silvaticum* respondens, sed *H. atrato* typico Sudetorum valde simile.

c) **Schroeterianum** Zahn.

Subspecies **Schroeterianum** Zahn, Hierac. d. Schweiz (1906) p. 390; *H. dolichaetum* ssp. *dolichaetum* Zahn, in Koch Syn. (1901) p. 1850; nec A.-T. Caulis (15—) 20—35 (—40) cm altus, tantum basin versus sparsim disperseve pilosus, fere usque ad basin floccosus, superne densissime longeque glandulosus, usque ad basin modice glandulosus. Folia radicalia numerosa petiolata, exteriora parva, obovata v. elliptica obtusa, reliqua maiora oblongo-lanceolata v. lanceolata obtusiuscula v. acuta, omnia cito v. pleraque sensim in petiolum angustata, denticulata v. leviter sinuato-dentata v. argute grosseque serrato-dentata, dilute v. saturate viridia, mollia v. subrigidiuscula, utrimque pilis dispersis v. modice numerosis brevibus,

0,5–1 mm, in parte superiore rigidiusculis, in petiolo ad 1–2 mm longis obsita; caulina 2–4 cito v. ± sensim decrescentia, inferius saepe subpetiolatum, sequentia basi angustata vix breviter alato-petiolata, lanceolata, summa lineari-lanceolata v. linearia; omnia folia in margine mediocriter sat longeque glandulosa, superiora dense v. densissime glandulosa saepe fere pilosa et etiam in parte superiore aversaque glandulosa, subtus saepe ± floccosa. Acladium brevissimum v. ad 35 (–65) mm longum, rami primarii 1–3 (–4) remoti erecti, simpliciter v. dupliciter ramosi, capitula 2–7 (–12). Involucrum (8,5) 9–10 mm longum ovatum denique basi truncatum. Squamae subangustae obtusiusculae v. acutae nigrae, interiores dilute marginatae fere effloccosae, v. sat dense floccosae, densissime obscureque glandulosae pilosae. Pedunculi ± cani densissime longissimeque glandulosi pilosi. Flores lutei, ligulae apice ± ciliatae, stylus luteus v. obscurus. Achaenia subatra.

Variat: α) **genuinum** Zahn, Hierac. d. Schweiz p. 390. Folia denticulata v. dentata.

1) normale Zahn l. c. Involucrum nigrum fere effloccosum.

- a) *verum* Zahn l. c. Folia lata, interiora oblongo-lanceolata. — Helvetia: Eginental, Maienwand, Furka, Realp (Favrat, Correns, Zahn); Rhaetia: Val Sertig (Zahn), Ochsenalp pr. Chur, Val Fondei (Wilczek), Dischmatal (Muret), Schlapiner Joch, Kübliser Alpe, Silvrettaalpe (Brügger); Albula (Muret), Val Fex, Muottas pr. Samaden, Val Bevers, Bernina, Schafberg (Rübel, Braun), Val Roseg (Muret etc.); Buffalora, Scarlital (Brunies, Schröter), Alp Suot in valle Tuoi, Murtera supra Boscha, Muot del hom supra Guarda (Bernoulli); Val Foscagno pr. Bormio (Longa). Camoghé (Jäggli). — Vorarlbergia: In iugo Arlberg (Murr). — Tirolia: Galtür in valle Paznaun (Zahn); in iugo Fedaja (Harz).
- b) *angustifolium* Zahn l. c. Folia rosularia interiora lanceolata v. anguste lanceolata saepe valde elongata, caulina subtus subfloccosa, involucrum semiglobosum. — Eginental 2300 m (Zahn).
- c) *stenodontum* A.-T., apud Zahn, in Schinz et Kell., Fl. d. Schweiz ed. 2 II (1905) p. 315. Folia brevissime dentata lanceolata. — Albula (Muret); Tirolia: Rosskogl 1800 m (Murr); Italia bor.: inter Bormio et Livigno (Longa).
- d) *melanadenium* Zahn, Hierac. d. Schw. l. c. p. 391, involucris pedunculisque nigroglandulosis, foliis caulinis angustis effloccosis. — Inter vallem Fedoz et Sils (Touton).

β) **heterodontum** Zahn l. c. p. 391, foliis irregulariter grosse v. inciso-dentatis, dentibus interdum longis angustisque.

- a) *verum* Zahn l. c., foliis in parte superiore subglaucescentibus, caulinis 2, inferiore pectinato-dentato, summo lineari. — Maienwand (Chenevard), inter Sils et Fuorcla Surlej (Touton).
- b) *subfloccosum* Zahn l. c., foliis caulinis 3, summo lineari-lanceolato v. lineari, squamis modice v. sat dense floccosis. — In valle Sertig pr. Davos (Zahn); sub m. Geisspitze v. Gauertal Vorarlbergiae (Murr).
- c) *dolichaetiforme* Zahn, in Koch Syn. (1901) p. 1854, foliis radicalibus numerosissimis oblongo-v. ovato-lanceolatis, exterioribus ± cito in petiolum angustatis obtusis, reliquis sat magnis valde grosse dentatis, in margine

nervoque dorsali et in petiolo albo-villosis, involucris sat dense floccosis.

— In valle Sertig pr. Davos 19—2100 m (Zahn).

Exsiccata: C. H. Zahn, Hieraciotheca Europaea no. 276 (α 1 a).

Tab. 145, Fig. A. 1—4. *H. atratum* Fr. ssp. *Schroeterianum* Zahn β *heterodontum* b) *subfloccosum* Zahn (in valle Sertig legi.) 1. Squama. 2. Pedunculus sub involucrio. 3. Margo et pars aversa folii caulini. 4. Foliorum radicalium margo.

Subspecies **squalidiforme** Murr et Zahn, in Koch Syn. (1901) p. 1853; *H. squalidum* A.-T. in sched. apud Murr, in Deut. bot. Monatsschr. (1897) p. 282; *H. Vollmanni* ssp. *squalidiforme* M. et Z. l. c. Caulis 15—20 (—25) cm altus tenuis v. gracilis basin versus subpilosus subglandulosus, superne epilosus densius glandulosus subfloccosus altefurcatus 2—3 (—5), cephalus, aeladio ad 5 cm longo, ramis 2 (—3) remotis 1 (—3) cephalis. Folia radicalia c. 5 sat magna ovato- v. oblongo-lanceolata satis breviter petiolata basi truncata v. \pm cito contracta acutiuscula v. acuta, denticulata v. irregulariter dentata v. praecipue basin versus \pm grosse dentata, utrinque breviter subpilosa, disperse, in margine subdensius glandulosa; caulina 0—1 (—2), inferius late lanceolatum v. angustius, summum lineare. Involucrum 10—11 mm longum ovatum, squamis latiusculis acuminatis obtusiusculis v. subacutis viridiatris v. atris, praecipue interioribus dilutius (viridi-) marginatis, omnibus pariter ac pedunculi ramique dense floccosis dense \pm longeque glandulosis sparsim floccosis epilosis. Ligulae luteae apice ciliatae, stylus obscurus.

Tirolia: In valle Vennatal iuxta iugum Brenner, Oberiss in valle Stubai versus Horn-talerjoch et versus Alpein, in m. Arlberg supra Stuben (Murr); in ditione m. Peitler pr. Brixen: ad rivulum Rusisbach 1700 m (Heimerl).

Tab. 145, Fig. B. 5, 6. *H. atratum* Fr. ssp. *squalidiforme* M. et Z. (e valle Stubai: Oberiss, leg. J. Murr). 5. Squama. 6. Pedunculus sub involucrio.

Subspecies **adenophyton** Zahn, in Schinz et Kell., Fl. d. Schweiz ed. 2 II (1905) p. 317; Zahn, Hierac. d. Schweiz (1906) p. 401 (pro specie); *H. dolichaetum* ssp. *adenophyton* Zahn, in Koch Syn. (1901) p. 1850. Caulis ad 50 cm altus, inferne tantum sparsim pilosus, superne dense longeque glandulosus et modice floccosus, usque ad basin mediocriter glandulosus. Folia radicalia 2—4 (interdum nulla et caulis hypophyllopodus), haud raro in caulis basi 1—2 rosulae laterales evolutae, foliis ad 8 magnis compositae, folia saepe ad 20 cm longa oblongo-lanceolata, utrinque subsensim v. sensim angustata, obtusiuscula v. acuta, in petiolum \pm longum alatum decurrentia, leviter sinuato-denticulata v. dentata, dentibus subnumerosis apice glanduliformibus munita, basin versus profundius serrato-dentata v. valde grosse dentata, dentibus saepe in petiolum descendentibus, disperse sparsimve breviterque pilosa, supra \pm epilosa, in margine petioloque disperse v. fere mediocriter et breviter pilosa, eodem tempore pariter ac in parte superiore aversaque modice glandulosa; folia caulina 3—6 remota sensim decrescentia fere epilosa, sed in margine et in parte superiore aversaque glandulis subdensis obscuris longisque obsita, inferiora basi angustata subpetiolata, sequentia basi angustata sessilia, superiora lineari-lanceolata; omnia folia sublutescenti- v. sordide viridia, subtus pallidiora, submollia. Inflorescentia indeterminata \pm suprafastigiata, aeladium 15—30 mm longum, rami 4—6 valde remoti elongati erecti subgraciles, ordines axium 3—4, capitula 10—20, involucrium (9—) 10 (—11) mm longum crasse ovatum basi rotundatum, squamae e basi sublatiuscula acuminatae subangustae acutiusculae v. acutae, nigrovirides, intimae subviridi-marginatae, omnes sparsim disperseve floccosae densissime longeque glandulosae epilosae.

Pedunculi consimiles, cani v. albido-cani. Flores lutei, ligulae apice breviter ciliatae, stylus obscurus, achaenia atra.

Helvetia: In valle Sertig pr. Davos 1950 m (Zahn), Maloja (Touton).

Transitus *Schroeterianum*—*Boccone*, posteriori habitu similior, glandulis in plantae superiore parte numerosissimis longisque insignis.

β) **pseudoboccone** M. et Z., capitulis maioribus, foliis latioribus; habitu *H. Boccone* similior. — Arlberg: inter Rauz et hospitium (Murr).

Tab. 146. *H. atratum* Fr. ssp. *adenophyton* Zahn (e valle Sertig pr. Davos legi). 1. Apex ligularum. 2. Squama. 3. Pedunculus sub involucrio. 4. Foliorum margo.

c. Submurorum Zahn.

Subspecies **samnaunicum** Zahn, in Koch Syn. (1901) p. 1848; Hierac. d. Schw. (1906) p. 391; *H. murorum* var. *subatratum* A.-T. in sched. Caulis c. 30 cm altus, inferne subpilosus, superne pariter ac involucria et pedunculi densissime glandulosus. Folia rosularia ovata v. oblongo-lanceolata, a medio ad basin profunde serrato-dentata v. irregulariter grosse dentata, basi truncata v. ± in petiolum contracta, dilute viridia subglaucescentia v. subcinerascenti-viridia, supra parcepilosa v. glabra; caulinum 1 radicalibus interioribus simile, interdum pectinato-dentatum. Acladium 20—50 mm longum, rami primarii 3 (—4), ordines axium 3—4, capitula 2—10 (—20). Involucrium 10 mm longum ovatum, squamis angustis acutiusculis v. acutis obscuris ± effloccosis, interioribus dilute marginatis. Stylus subluteus v. obscurus.

In ditioe *H. atrati*. Helvetia: Eginental (Chenevard), Maenwand, Eggischhorn (Bernoulli), in iugo Simplon, Hohbühl supra Algabi (Chenevard); Val Muschenas pr. Scafs (Candrian); Samnaun (Kaeser); Tirolia: Kreuzberg pr. Sexten, inter iugum Rolle et Cimon della Pala, inter Schluderbach et Plätzwiesen (A. et K. Touton).

Tab. 148. *H. atratum* Fr. ssp. *samnaunicum* Zahn (e valle Samnaun: Compatsch, leg. Kaeser). 1. Pedunculus sub involucrio. 2. Squama. 3. Foliorum margo.

Subspecies **dolichaetoides** Zahn, in Koch Syn. (1901) p. 1848; Hierac. d. Schw. (1906) p. 391. Caulis ad 50 cm altus usque ad basin ramosus, superne sat dense et plerumque sat longe glandulosus, inferne disperse pilosus. Folia rosularia ovalia v. oblonga, exteriora plerumque basi cordata apice rotundata obtusa, interiora abrupte in petiolum subtenuem angustata ± acuminata, omnia dilute viridia, a medio v. iam ab apice ad basin dentata, basi valde grosse et late dentata, supra fere epilosa, in margine petioloque modice pilosa, 0,5—2 mm; caulinum ovato-lanceolatum v. lanceolatum breviter petiolatum, interdum 2 evoluta, summum lineare. Acladium ad 50 mm longum, rami 3—4 valde remoti, inferior saepe cauliforme, ordines axium 3 (—4), capitula 7—15; reliqua ut in ssp. *samnaunico*, sed involucria plerumque submaiora longius glandulosa.

Formulae *Schroeterianum*—*silvaticum* respondens.

Helvetia: Maloja, Celerina, Sils-Surlej, Val Bevers (A. et K. Touton), Sertigtal pr. Davos (Zahn).

Tab. 147. *H. atratum* Fr. ssp. *dolichaetoides* Zahn (in valle Sertig legi). 1. Squama. 2. Pedunculus sub involucrio. 3. Portio e caulis medio. 4. Foliorum margo.

In „Hieracien der Schweiz“ (1906) p. 392 iam duas alias subspecies descripsi: Ssp. **sasellae** Tout. et Zahn, foliis ovato-lanceolatis glaucescentibus, in parte superiore setoso-subpilosis, pedunculis involucriisque densissime glandulosis, in rupibus Crap Sasella pr. Samaden *Engadin* superioris a cl. A. et K. Touton lecta, et Ssp. **Coazii** Zahn, capitulis pedunculisque disperse

modiceve pilosis mediocriter glandulosis ab aliis subspeciebus gregis *Submarorum* praecipue diversa, a Candrian pr. Samaden et in valle Muschenas pr. Scanfs inventa.

88. Hieracium Krašani Woł., Trzeci Przyczynek do flory Pokucia, in Sprawozdań komisji fizyograficznej Akademii Umiejętności, tom. XXV (1890) p. 64; = **alpinum—transsilvanicum** Woł. l. c.

Subspecies **Krašani** Woł. l. c. Rhizoma crassum saepe pluricaule. Caulis gracilis 18—30 cm altus phyllopodus, viridis, inferne rubro-violaceus, superne dense floccosus, ubique sat dense pilosus, pilis dilutis sat mollibus 2,5—3,5 mm longis, apicem caulis versus basi nigricantibus et glandulis atris subnumerosis immixtis. Folia rosularia numerosa oblongo-v. lanceolato-spathulata obtusa v. obtusiuscula ad 10:1,5 cm longa, basin versus longe sensimque in petiolum late alatum saepe sat brevem angustata, gramineo-viridia, subintegerrima v. remote leviterque sinuato-denticulata saepe subundulata, exteriora glabrescentia, reliqua utrimque dense molliterque pilosa, 2—4 mm, in margine mediocriter glandulosa et pariter ac in nervo dorsali petioloque densius pilosa subvillosa, novella subpellita; caulina (1—) 2—3 (—4) oblongo-lanceolata v. lanceolata oblique patentia, inferius acutiusculum longe in petiolum late alatum brevem attenuatum, superiora ± longius acuminata basi angustata subsessilia, in bracteas angustas lineares abeuntia. Inflorescentia ± furcata, acladium 15—40 mm — $\frac{1}{2}$ totius caulis longum, rami primarii 1 (—3) oblique erecti graciles, ordines axium plerumque 2, capitula 1—3 (—4). Involucrum 12—13 mm longum semiovatum, squamae adpressae latiusculae acuminatae acutiusculae v. acutae, nigricantes, *dense glandulosae, pilis subobscuris* brevibus *modice numerosis* obsitae, effloccosae. *Pedunculi* graciles 3—4 bracteis linearibus, inferioribus 2 subfoliaceis lineari-lanceolatis obsiti, pariter ac caulomata *mediocriter obscure-pilosi* et sat dense glandulosi, cani. Flores aureolutei, ligulae apice parum ciliatae fere glabrae, *stylus obscurus*.

Carpathes orientales: In cacumine m. Siniak inter flumina Pruth et Bistrzyka 1660 m inter parentes absque aliis Hieraciis rarissime (Wołoszczak!), in m. Popad ad flumen Lomnica (id.); Marmaros: in m. Pietrosz (Pantocsek!).

Tab. 150, Fig. A. 1—3. *H. Krašani* Woł. ssp. *Krašani* Woł. (e m. Pietrosz). 1. Squama. 2. Pedunculus sub involucro. 3. Foliorum margo.

Subspecies **kukulense** Woł. et Zahn; *H. Krašani* Woł. p. p. Rhizoma saepe pluricaule. Caulis c. 20 cm altus tenuis viridis, in inferioribus duabus partes sat dense pilosus, superne dense floccosus subglandulosus, usque infra medium deminute floccosus, usque ad basin glandulis solitariis obsitus. Folia rosularia numerosissima oblongo-spathulata v. spathulato-lanceolata, sat longe petiolata, petiolo basi late vaginanti, ad 8:1,3 cm longa, obtusa v. acutiuscula, intima acuta, omnia dilute viridia, in petiolum longe attenuata, leviter sinuato-emarginata et glanduloso-dentata, utrimque pilosa, in margine modice glandulosa et pariter ac in nervo dorsali petioloque dense molliterque pilosa; caulina lanceolata, inferiora longe in basin petioli-formem attenuata, media brevius angustata, superiora lineari-lanceolata v. linearia. Acladium 12—20 mm longum, rami primarii 3—4 usque ad basin descendentes monocephali, capitula 2—3 (—5). Involucrum gracile cylindrico-ovatum 9—10,5 mm longum *densissime glandulosum effloccosum, pilis solitariis atris obsitum*, squamae subangustae atrae, interiores subdilute submarginatae. Pedunculi subtenuis densissime glandulosi plerumque epilosi dense floccosi. Flores dilute v. ± saturate lutei, dentes ligularum sparsim ciliati, *stylus luteus*, denique luteo-brunneus, achenia brunnea.

Variat: *α*) **genuinum**, ut supra. — In m. Kukul ad montes Czorna hora Carpathorum Galiciae orientalis. (Wołoszczak!).

β) **subkrašani**, foliis dilute sublutescenti-viridibus, *utrimque densissime molliterque pilosis*, subdenticulatis vix undulato-marginatis; acladio 5—12 mm longo, ramis 2 (—4), superioribus 2 saepe tantum evolutis, caule plerumque 3-cephalo; involucris mediocriter pilosis. — Eodem loco.

Subspecies **suhardense** Wol. et Zahn. Rhizoma subtenue unicaule. Caulis tenuis 20—25 cm altus, superne disperse obscureque pilosus et modice floccosus, usque ad medium glandulis atris brevibus densissimis obsitus et viridi-ater, usque ad basin sat dense glandulosus et pilis densis basi obscuris mollibus obsitus, fere usque ad basin parceffloccosus. Folia radicalia complura (c. 5) petiolata cum petiolo 5—8 cm longa, 8—12 mm lata, obovato-spathulata v. spathulato-oblonga v. spathulato-lanceolata, apice rotundata obtusa v. acutiuscula, lutescenti-viridia, utrimque dense molliterque pilosa, in margine nervoque dorsali et in petiolo densius pilosa et modice tenuiterque glandulosa, pilis ubique brevibus; caulina 3—5, plerumque 3 maiora, reliqua bracteiformia, inum late alato-petiolatum, lanceolatum, breviter acutum, basin versus longe sensim attenuatum, proximum basin versus sensim angustatum sessile, tertium linearilanceolatum; omnia *integerrima* vel *subtiliter denticulata*. Acladium 3—5 mm longum, rami primarii 5 (—6) remoti paulum suprafastigiati oblique patentes subflexuosi monocephali, ordines axium 2, capitula 5 (—6). Involucrum sat parvum ovatum basi rotundatum 8—9 mm longum atrum, squamae latiusculae acutiusculae v. acutae, atrae viridi-marginatae, densissime glandulosae, disperse v. submodice obscureque pilosae, effloccosae, glandulis longioribus brevioribus immixtis. Pedunculi densissime glandulosi disperse pilosi modice floccosi, glandulis pilisque atris. Flores lutei, dentes ligularum breves, obscurius lutei, ciliati, ligulae semitubulosae, stylus luteus denique brunnescens, ex tubo exsertus, achaenia denique obscure brunnea.

H. transsilvanico magis affine, habitu *H. atrati*.

In cacumine m. Suhard, solo schistoso, 1709 m, inter *H. alpinum* et *transsilvanicum* (Wołoszczak, 4. VIII!).

Subspecies **rotundiceps** Pantocsek et Zahn, Mag. bot. lapok (1907) p. 221. Caulis 25—35 cm altus tenuis v. gracilis, usque ad basin, superne sat dense floccosus, ubique pilis mollibus albis, 1—2 mm, basin versus ad 3—4 mm longis subpilosus et glandulis brevibus tenellis dispersis obsitus, erectus parum flexuosus, subtiliter striatus; rhizoma saepe pluricaule, v. caulis primarius basi 1—3 caules laterales evolvens. Folia radicalia ± longe tenuiterque petiolata, exteriora minora ovalia obtusa mucronata, reliqua ad 12 cm longa ovato-lanceolata, elliptico-lanceolata acutiora, v. interiora lanceolata longe acuminata, omnia cito, interiora sensimve in petiolum angustata, remote denticulata v. interdum subdentata rarius dentata, utrimque pilis in parte superiore rigidiusculis subtus mollioribus 1—3 mm longis subpilosa, superne saepe minus pilosa in margine nervoque dorsali et in petiolo densius pilosa (folia novella subsericea) et praecipue in margine glandulis tenellis dispersis obsita; caulina 2—3 lanceolata, in nervo dorsali v. in tota parte aversa subfloccosa, basin versus longe angustata v. folium medium brevius angustatum, longe acuminata, summum linearilanceolatum elongatum; inferiora basi subdentata, dentibus apice glanduliformibus. Inflorescentia altefurcata, acladium 10—30 mm longum, rami primarii 2—4 valde remoti erecti saepissime mono-, rarius 2—3-cephali; capitula 2—8. Involucrum 8—9 mm longum ovato-

globosum, squamae obscurae angustae acutae, pilis sat densis basi atris apice dilutis, 1—1,5 mm longis, glandulis dispersis et basin versus floccis dispersis subnumerosisve obsitae, apice eximie barbulatae; interiores dilutius submarginatae. Pedunculi \pm tomentosi sat dense breviterque pilosi, 1—2 mm, disperse glandulosi, bracteis 1—3 obsiti. Flores lutei, ligulae apice breviter ciliatae, stylus denique obscurus, achaenia atra.

Habitu *H. atrati*, sed foliis sat magnis mollioribus more *H. transsilvanici* pilosis, capitulis minoribus gracillimis, squamis angustis acutis etc. differt.

Com. Marmaros Hungariae: In pratis alpinis m. Nagy-Pietrosz versus vallem Bucuiescu 18—2000 m Filarszky et Jávorka, 22. VII 1906!), in regione Mughl m. Pietrosz (Pantocsek).

Tab. 150, Fig. B. 4—5. *H. Krašani* Woł. ssp. *rotundiceps* Pant. et Zahn (e m. Pietrosz, leg. Pant.). 4. Squama. 5. Pedunculus sub involucri.

Subspecies *pikujense* Woł. et Zahn. Rhizoma crassum. Caulis ad 30 cm altus dense pilosus, usque ad basin dense floccosus et subglandulosus, basi densissime pilosus, pili ad 4 mm longi, inter internodia subflexuosus. Folia rosularia numerosissima late lanceolata grosse pluridentata (fere ut in *H. calenduliflora*), in parte aversa sat dense molliterque pilosa, supra disperse pilosa, canescenti-viridia, in nervo dorsali petioloque laxè pellita, in petiolum brevem v. usque ad basin angustata et fere haud petiolata, exteriora obtusiuscula, interiora acuta; caulina 3 remota lanceolata, summum lineare; omnia in margine glandulis dispersis brevibus obsita. Acladium 20 mm longum, rami primarii 3 (—5) valde remoti, inferiores e caule basi orti, ordines axium 3, capitula 10—15. Involucrium 10 mm longum ovatum basi rotundatum denique subtruncatum; squamae sublatiusculae atrae effloccosae, sat dense obscureque pilosae et dense glandulosae, glandulis brevioribus longioribus immixtis. Pedunculi graciles dense glandulosi et floccosi, mediocriter-, rami densius obscure pilosi. Flores dilute lutei, dentes ligularum longe pilosi, stylus obscurus.

Habitu *H. rhaetici* Alpinum Helvetiae.

In cacumine m. Pikuj Carpathum Sanokensium (Wołoszczak!).

Subspecies *czywczynae* Woł. et Zahn. Caulis 25—35 cm altus striatus ubique submodice breviterque pilosus, superne modice glandulosus denseque floccosus, floccis usque infra medium caulem deminutis, glandulis cito deminutis valde tenellis profunde descendentibus. Folia rosularia numerosa petiolata mediocriter magna ovato-oblonga v. oblongo-lanceolata v. intima lanceolata, obtusa rotundata v. acuta, dilute sublutescenti-viridia, \pm denticulata v. basi grosse dentata, dentibus fere usque ad apicem foliorum ascendentibus, basi truncata v. plerumque in petiolum subalatum subobscurum \pm contracta, utrinque subpilosa, supra glabrescentia, in margine disperse minuteque glandulosa et pariter ac in nervo dorsali et in petiolo dense pilosa, 2—2,5 mm, novella ut in *H. transsilvanico* breviter villosa; caulinum 1 (—2) lanceolatum acutum, denticulatum, in nervo mediano dorsali floccosum, summum lineare. Inflorescentia paniculata, acladium 5—12 mm longum, rami primarii 3—6 (—8), superiores \pm approximati, interdum subumbellati, inferiores remoti, inus e medio caule v. profundius ortus, plerumque haud evolutus. Involucrium 10—11 mm longum silvaticiforme, squamae angustae acutiusculae v. acutissimae atrovirides, sat dense breviterque pilosae, effloccosae, sat dense glandulosae, interiores dilute viridi-marginatae, exteriores angustiores. Pedunculi ramique sat dense glandulosi dense floccosi, glandulae ubique tenues. Flores lutei, dentes ligularum saepe obscurius lutei, breviter ciliati, stylus obscurus, achaenia atrobrunnea.

H. suhardensi affine.

In rupestribus calcareis sub m. Czywczyn 1580 m ad flumen Schwarzer Czeremosz ad limites Galiciae et Bukovinae (Wołoszczak 10. VIII!).

89. Hieracium pietroszense Degen et Zahn, in Mag. bot. lapok (1906) p. 72; == **alpinum—bifidum** Zahn l. c.

Caulis ad 25 cm altus subgracilis paulum flexuosus parcepilosus, unifolius, monocephalus v. furcato-dicephalus. Folia rosularia numerosa petiolata, exteriora ovata obtusa minora, denticulata, interiora maiora elliptica, elliptico-lanceolata v. oblonga, acutiuscula v. \pm acuminata acuta, saepe apice plicata, infra medium grosse glanduloso-dentata, utrimque mediocriter pilosa, 1—2,5 mm, v. superne subglabra, in margine parce subtiliterque glandulosa; folium caulinum lanceolatum subdentatum, v. lineare. Acladium $\frac{1}{2}$ — $\frac{2}{3}$ totius caulis exhibens. Involucrum 12 mm longum late ovatum denique depressum, squamae sublatiusculae obtusiusculae v. interiores tantum \pm acutae, apice subbarbulae et saepissime obscuriores, mediocriter breviterque pilosae, 2—2,5 mm, glandulis tenuibus paulum numerosis et floccis dispersis, in margine subnumerosis adpersae. Pedunculi superne paulum incrassati, pilis glandulisque tenellis paulum numerosis muniti, \pm dense floccosi v. subincani. Bractee 2—3 subulatae. Flores speciosi, stylus obscurus, ligulae saepissime glabrae, achaenia subatra.

In Carpathis Rodnensibus Hungariae. — Flor. Iul., Aug.

Habitu *H. nigrescentis*, sed foliis haud raro in parte superiore glabrescentibus, pedunculis multo minus glandulosis densius floccosis et squamis \pm floccosis parum glandulosis differt.

Subspecies **pietroszense** Deg. et Zahn l. c., foliis sordide viridibus supra pilis subnumerosis subrigidiusculis praeditis, squamis subangustioribus, interioribus acutis, ligulis saturate luteis v. subaureis. — In Alpibus Rodnensibus: In parte boreali m. Pietrosz, 1800 m (Ade).

Tab. 149, Fig. A. 1—3. *H. pietroszense* Deg. et Zahn ssp. *pietroszense* D. et Z. (e loco classico, leg. Ade). 1. Squama. 2. Pedunculus sub involucri. 3. Foliorum margo.

Subspecies **bifidifolium** Deg. et Zahn l. c., foliis dilute viridibus, supra subglabris, subglaucescentibus, subtus saepe subcoloratis, squamis sublatiusculis, ligulis dilute luteis. — In m. Galațiu pr. Rodna, comitat. Beszterçe Naszód Hungariae (de Degen).

Tab. 149, Fig. B. 4—6. *H. pietroszense* D. et Z. ssp. *bifidifolium* D. et Z. (e m. Galațiu, leg. de Degen). 4. Squama. 5. Pedunculus sub involucri. 6. Foliorum margo.

90. Hieracium rauzense Murr, Deut. bot. Monatschr. (1897) p. 281; Zahn, in Koch Syn. (1901) p. 1893; Hierac. d. Schweiz (1906) p. 392; == **alpinum** < **bifidum** Zahn, Hierac. d. Schw. l. c.

Caulis (15—) 25—35 (—40) cm altus tenuis v. gracilis saepe \pm flexuosus, superne dense floccosus et disperse v. fere mediocriter breviterque pilosus, usque ad basin floccosus, inferne subdensius pilosus, basin versus saepe pariter ac foliorum petioli \pm violaceus, ubique sparsim glandulosus v. fere eglandulosus. Folia rosularia pauca v. numerosa, petiolata, exteriora minora ovalia v. oblonga et \pm obtusa, reliqua ovato- v. oblongo-lanceolata \pm acuminata acuta, interdum lanceolata, omnia in petiolum breviter v. plerumque longe angustata, leviter sinuato-dentata v. sinuato- v. inciso- et grosse dentata, dentibus saepe numerosis varie magnis, in parte superiore parcepilosa, 0,5—1 mm, subtus disperse pilosa, 1—2 mm, in margine nervoque dorsali sat dense pilosa, 1—2 mm, in nervo dorsali plerumque \pm floccosa, in margine

semper glandulis minutis solitariis praedita, in petiolo basin versus sat dense v. dense pilosa, 2—2,5 mm, dilute viridia saepe ± glaucescentia, per exsiccationem faciliter lutescentia, saepissime subrigida; caulina 2 (—3), inferius radicalibus interioribus simile, saepe grossius dentatum, basi angustatum vix petiolatum, summum lanceolatum v. anguste lanceolatum v. longe subulatum. Inflorescentia altefurcata saepe ± squarrosa, indeterminata, acladium 2—7 (—12) cm longum, rami primarii 1—4 oblique patentes rigidi, inferiores longi, interdum caules laterales evoluti, ordines axium 2—3, capitula (2—) 3—10. Involucrum crasse ovatum, initio saepe oblongo-ovatum, (10—) 11—13,5 (—15) mm longum, squamae e basi latiuscula acuminatae obtusiusculae v. acutae v. acutissimae, subatrae, ± dense floccosae canescentes, in margine saepe canotomentosae, praeterea submodice v. sat dense obscureque glandulosae, disperse v. modice pilosae. Bractee 2—3 parvae. Flores lutei, stylus obscurus, dentes ligularum parum ciliati, achaenia subatra.

Valesia superior, Engadina et Helvetia australis, Vorarlbergia, Tirolia, Carinthia, Transsilvania, Carpathes. — Flor. Iul.—Aug.

Ab *H. atrato* praecipue foliis saepius ± glaucescentibus, inflorescentia squarroso-ramosa, involucris pedunculisque dense floccosis sed minus glandulosis etc. differt.

1. Folia supra maculata.

Subspecies **maculifrons** Deg. et Zahn, Mag. bot. lapok (1906) p. 72. Folia rosularia numerosa elliptica v. oblonga obtusa, basi in petiolum alatum breviter angustata v. utrimque subattenuata mucronata, caulina 2—3 lanceolata, superiora in nervo dorsali subfloccosa, omnia glanduloso-denticulata dentatave, supra violaceo-submaculata subpilosa v. subglabra gramineo-viridia, subtus subpilosa, in petiolo dense pilosa. Caulis subpilosus, 1—2,5 mm, superne dense floccosus. Capitula 3—7.

In m. Oecsém teteje pr. Balánbánya, comitat. Csík Hungariae (de Degen).

1* Folia supra haud maculata.

2. Involucra pedunculique disperse sparsimve glandulosa sat dense diluteque pilosa, 1—2 (—3) mm, squamae angustae acutissimae, acladium 10—12 cm longum.

Subspecies **megalocladum** Zahn, Hierac. d. Schw. (1906) p. 393. Folia rosularia sat magna late lanceolata longe in petiolum angustata, infra medium dentibus nonnullis grossis munita, utrimque (superne rigidiuscule) disperse pilosa, in margine disperse glandulosa; caulina 2—3, summum longum lineare, medium anguste lanceolatum longum denticulatum, imum radicalibus interioribus simile. Rami longissimi, inferiores saepe repetito-flexuosi. Caulis usque ad basin modice pilosus, 2—3,5 mm. Involucrum canescenti-albidum.

In rupium fissuris pr. Wirl in valle Paznaun superiore (Kükental, Zahn).

Tab. 151, Fig. B. 3—5. *H. rauzense* Murr ssp. *megalocladum* Zahn (e loco classico legi). 3. Squama. 4. Pedunculus sub involucri. 5. Foliorum margo.

2* Involucra pedunculique disperse v. sat dense glandulosa, pilis brevioribus minus densis ± obscuris obsita, squamae partim obtusiusculae v. acutiusculae, acladium dimidio brevius.

3. Pili involucri pedunculorumque numerosiores v. aequae numerosi quam glandulae.

Subspecies **rauzaense** Murr l. c. Caulis disperse breviterque pilosus usque ad basin dense floccosus. Folia rosularia plerumque numerosa (ad 10), interdum florendi tempore pauca tantum non emarcida, exteriora elliptica ± obtusa, pleraque ovato- vel oblongo-lanceolata ± acuminata acutiuscula v. acuta, subcito subsensimve in petiolum angustata, breviter longeve petiolata, utrimque disperse pilosa, 0,5 mm, v. glabrescentia, viridia saepe subglaucescentia, in margine disperse glanduloso et in petiolo sat dense pilosa, 0,5—2,5 mm, dentata

vel serrato-dentata, pluridentata; caulina plerumque 2 (—3) ± lanceolata acuta basi attenuata subpetiolata v. subsessilia, summum lineari-lanceolatum v. lineare ± floccosum. Acladium 2—5 (—8) cm longum, rami elongati rigidiusculi. Involucrum densissime floccosum obscure cinereum, pilis (pariter ac in pedunculis) obscuris basi aterrimis. Stylus in planta, ut praeceptum est exsiccata, luteo-brunneus.

Variat: 1) normale a) *verum*. — Helvetia: In valle Eginen et ad meridiem glaciei Rhôneletscher in declivitatibus infra viam (Zahn), in valle Piora: Bucca di Fongio (Bernoulli), in alpe Quadrella, Motto Minaccio 2000 m, in alpe Ribbia, Pizzo Molinera 2100 m (Chenevard); Engadina: inter Sils et Isola (A. et K. Touton), in v. Fedoz 19—2000 m (etiam forma pathologica microcephala), Maloja (Bernoulli); Vorarlbergia: in iugo Schlapiner Joechl (Grادل), pr. Rauz in iugo Arlberg, loc. classico! (Murr); Tirolia: Galtür in v. Paznaun (Zahn), Laengental pr. Praxmar (Poell); Carinthia: Turrach, Mallnitz: versus Niederen Tauern et versus Dössner Scharte (de Benz).

b) *pilosus* Zahn, Mag. bot. lap. (1907) p. 221, caulomatibus paulo densius pilosis, capitulis paulo minoribus. — Marmaros Hungariae: In regione Mughì m. Pietrosz (Pantocsek).

2) floccinervum Zahn, Mag. bot. lap. l. c., foliis in parte superiore disperse breviterque pilosis et praeterea in nervo mediano (supra!) subfloccosis. — Marmaros: In regione Mughì m. Repede (Pantocsek).

Exsiccata: Hieraciotheca Europaea No. 64.

Tab. 152. *H. rauzense* Murr ssp. *rauzaense* Murr (e loc. classico, leg. Murr). 1. Dentes ligularum. 2. Squama. 3. Pedunculus sub involucrio. 4. Foliorum margo.

Subspecies **gletschense** Zahn, Hierac. d. Schw. (1906) p. 389 (sub *H. atrato*). Caulis 25—40 cm altus ubique submodice pilosus, superne floccosus disperseque glandulosus, inferne subeffloccosus sparsissimeque glandulosus. Folia radicalia oblongo-spathulata obtusa v. oblongo-lanceolata, saepe magna, 8—20 cm longa, petiolis dimidio brevioribus, utrimque cito longissimeve angustata, dentibus numerosis longioribus brevioribus immixtis, apice glanduliformibus munita, dilute viridia subglaucescentia mollia, supra fere pilosa, subtus disperse, in margine petioloque modice molliterque pilosa, 0,5—2 mm, caulina 2, inferius rhomboideo-lanceolatum v. lanceolatum utrimque longe attenuatum subpetiolatum irregulariter subgrossequ pluridentatum, summum longum lineari-lanceolatum v. lineare. Acladium 5—7 cm, rami 2—3 valde remoti longi, saepe etiam 1—2 e caulis basi orti, ordines axium 3, capitula 2—6 (—8). Involucrum 10—12 mm, squamae angustae *acutiusculae* v. *acutae* subatrae, mediocriter v. in margine sat dense floccosae, pariter ac pedunculi *modice obscureque pilosae et mediocriter, pedunculi sat dense sat longeque nigro-glandulosae*, interiores viridi-submarginatae. Flores sat breves, stylus subater.

Formulae pseudocirritum > alpinum = [(*bifidum-cirritum*) > *alpinum*] melius quam formulae *bifidum* > *alpinum* respondens, sed *H. rauzaensi* habitu et characteribus omnino simile.

Subspecies **pseudarolae** Murr, apud Zahn, in Koch Syn. (1901) p. 1850. Caulis ad 25 cm altus brevissime subpilosus, fere usque ad basin dense floccosus et sparsim glandulosus. Folia radicalia submagna, exteriora ovalia v. elliptica ± obtusa, basi abrupte in petiolum contracta, reliqua ovato-vel oblongo-lanceolata saepe longe petiolata subcito v. longius in

petiolum subalatum attenuata, basin versus grosse arguteque dentata, viridia subglaucescentia, utrimque disperse breviterque pilosa v. glabrescentia, in margine sparsim glandulosa, novella tantum dense breviterque et subrigidiusculae pilosa. Acladium 2—4 cm, rami 1—3 erecti 1 (—2) cephalii, involucrium ad 12 mm longum, squamae sublatiusculae *obtusiusculae*, v. *interiores* ± *acutae*, obscurae v. atrovirides ± dense canofloccosae, pilis *modice numerosis* v. *interdum dispersis* basi atris et *glandulis dispersis* v. *interdum subnumerosioribus* obsitae. Pedunculi consimiles, dense canofloccosi. Flores aureolutes, ligulae apice ± ciliatae, stylus denique obscurus.

Tirolia: In alpe Stallsims 1700 m m. Glungezer pr. Innsbruck (Gremblach), in valle Laengental pr. Praxmar (Pöll).

Tab. 151, Fig. A. 1, 2. *H. rauzense* Murr ssp. *pseudarolae* Murr (ex alpe Stallsims, leg. Murr). 1. Squama. 2. Pedunculus sub involucrio.

Subspecies **farinifloccum** Deg. et Zahn, Mag. bot. lap. (1906) p. 73. Caulis ad 25 cm altus, brevissime parceque pilosus, usque ad basin subfloccosus, superne *farinaceus* et sparsim glandulosus. Folia radicalia numerosa, exteriora multo minora elliptica obtusissima, interiora oblonga v. lanceolata acutiora, omnia basi abrupte inaequaliterque (v. intima subsensim) in petiolum subalatum contracta, denticulata v. dentata, supra subglabra pallide viridia, subtus et in petiolo breviter subpilosa et saepe paulum violaceo-colorata, in margine sparsim glandulosa; caulina 1—2 lanceolata v. angustiora, in nervo dorsali (v. summum in tota parte aversa) ± dense floccosa. Capitula 3—5, squamae ± floccosae angustae acutiusculae v. acutae. Pedunculi *albido-tomentosi*, pariter ac involucria subpilosi subglandulosi. Flores saturate lutei, ligulae apice parum ciliatae, stylus ± obscurus.

Comit. Csík Hungariae: in m. Oecsam-teteje pr. Balánbánya (de Degen); Galicia: In m. Czywczyn ad fl. Schwarzer Czeremosz, 1580 m (E. Wołoszczak).

Subspecies **bifidellum** Zahn. Caulis ad 35 (—40) cm altus breviter subpilosus, superne ± floccosus et sparsim glandulosus. Folia rosularia subnumerosa, exteriora minora elliptica v. ± lanceolata obtusa v. ± acuta, interiora ovata v. elliptica v. ovato- v. elliptico-lanceolata v. (intima) lanceolata, obtusiuscula v. acutiora v. acuminata, basi truncata v. abrupte v. ± sensim in petiolum subalatum angustata, dentata v. praecipue a medio ad basin grosse dentata, dentibus saepe ± triangularibus, inferioribus in petiolum ± descendentibus, rarius tantum denticulata, supra ± glabra v. breviter subpilosa saturate v. sordide viridia, subtus parcepilosa, in margine nervoque dorsali saepe parcefloccoso densius ciliata (1—2 mm), in petiolo sat dense pilosa, praeterea in margine glandulis nonnullis parvis obsita; caulinum 0—1 lanceolatum dentatum v. lineare longe acuminatum subtus subfloccosum. Inflorescentia *H. bifidi*. Acladium 10—25 mm longum, rami primarii 3—4 valde remoti, ordines axium 3, capitula (2—) 3—7 (—12). Involucrium 9—11 mm longum ovatum, squamae obtusiusculae v. acutae subangustae, ± dense (in margine densius) floccosae disperse breviterque pilosae subglandulosae, glandulis maioribus parvis immixtis; pedunculi canotomentosi sat breviter subpilosi disperse mediocriterve glandulosi. Flores saturate lutei, ligulae apice fere glabrae v. breviter subciliatae, stylus obscurus.

Habitu omnino *H. bifidi* Kit., sed foliis in margine (etiam in nervo dorsali petioloque) sparsim glandulosis praecipue differt.

Hab. Helvetia: Maienwand (Steiger); Vorarlbergia: In valle Gauertal pr. Schruns (Murr); Tirolia: In m. Roskogel (Murr); in iugo Staller Sattel (de Benz); Stiria: Frauen-

alpe pr. Murau (Fest), Turracher Höhe (Oborny); Silesia: Kl. Schnee-grube Sudetorum, sol. basaltico (Callier).

3) **kondraczkae** Wol. et Zahn, foliis utrimque breviter sat denseque pilosis, caulinis 1—2, pedunculis et squamis sat dense pilosis, submodice glandulosis, ligulis subciliatis. — Tatra Polonica: Kondraczka, 2000 m.

Tab. 155. *H. rauzense* Murr ssp. *bifidellum* Zahn (e v. Gauertal, leg. Murr). 1. Squama. 2. Pedunculus sub involucrio. 3. Foliorum margo. 4. Caulis portio.

3* Pili involucri pedunculorumque valde minus copiosi quam glandulae.

Subspecies **aroliflorum** Murr et Zahn, in Allg. bot. Zeitschr. (1904) p. 101 (pro ssp. *H. arolae*); *H. dolichaetum* var. *aroliflorum* Murr, Die Hierac. d. Arlbergs, in 44. Jahrb. Bregenzer Mus.-Ver. (1908) p. 44. Huc pertinet etiam *H. Vollmanni* 2) *brachyanthum* M. et Z., in Koch Syn. (1901) p. 1853 et in Hierac. d. Schw. (1906) p. 403. *H. rauzensis* ssp. *rauzensi* valde simile; foliis caulinis 1—3, inferioribus saepe sat magnis, radicalibus ovato- v. oblongo-lanceolatis ± longe serrato- et pluridentatis similibus, summo lineari-lanceolato v. lineari; acladio 30—55 mm longo; capitulis 2—6, involucris ad 15 mm longis semiglobosis, squamis sublatiusculis acutiusculis v. acutis subatris, obscure disperseque pilosis, dense sat longeque obscure glandulosis, *disperse sparsimve floccosis*. Reliqua ut in ssp. *rauzensi*.

Variat: 1) normale, floribus evolutis conspicuis saturate luteis. — In iugo Arlberg supra 1600 m, praecipue versus hospitium St. Christof (Murr).

2) *brachyanthum* Murr et Zahn l. c., floribus tubulosis apice saepe debilibus abbreviatis ± stylosis. — In iugo Arlberg: pr. Rauz et St. Christof (Murr); in valle Samnaun Helvetiae (Käser).

Subspecies **semiatratum** Zahn, Hierac. d. Schweiz (1906) p. 394. *Transitus rauzense—atratum*. Caulis usque ad basin subglandulosus. Folia rosularia oblongo-lanceolata, fere omnia acuminata acutaque, brevius longiusve in petiolum alatum angustata, valde irregulariter dentata, dentibus numerosis longis lanceolatis v. linearibus antrorsum versis apice obtuse glanduliformibus brevioribus immixtis; caulina 2, inferius plerumque longius dentatum quam radicalia, summum lineare. Pedunculi glandulis sat densis sublongis atris pilisque obscuris dispersis muniti, dense floccosi, capitula consimilia, modice v. sat dense floccosa. Reliqua ut in ssp. *rauzensi*.

Helvetia: Ad meridiem glaciei Rhône-gletscher in declivitatibus versus viam (Zahn).

Tab. 154. *H. rauzense* Murr ssp. *semiatratum* Zahn (leg. ipse). 1. Squama. 2. Pedunculus sub involucrio. 3. Foliorum margo.

91. **Hieracium arolae** Murr, Schedae ad herb. norm. cent. XXXII (1897) p. 42; Deut. bot. Monatsschr. (1898) p. 5; Koch Syn. (1901) p. 1848; Zahn, Hierac. d. Schw. (1906) p. 394; == **alpinum—silvaticum—villosum** Zahn, in Koch Syn. l. c.

Formulae *atratum—dentatum* v. *nigrescens—incisum* respondens.

Subspecies **arolae** Murr l. c. — Caulis 12—20 (—30) cm altus subtenuis flexuosus, usque ad basin sat dense pilosus, 3—4 mm, et ± floccosus, glandulis nonnullis obsitus, saepe 1—3 caulibus lateralibus praeditus. Folia rosularia 4—6 v. compluria dilute viridia sat magna, exteriora minora ovata, reliqua ovato- v. oblongo-lanceolata, brevius longiusve petiolata, abrupte sensimve in petiolum ± alatum angustata, brevius longiusve acuminata (exteriora acutiuscula), a medio ad basin 3—5 dentibus maioribus munita, utrimque sat dense breviterque pilosa, 0,5—1 mm, in margine nervoque dorsali et in petiolo densius v. dense pilosa, pilis ad 4 mm longis, praeterea in margine glandulis nonnullis obsita; caulinum 0—1

lanceolatum v. lineare, saepe bractea viridis evoluta. Acladium 25 mm ad $\frac{1}{2}$ ($\frac{2}{3}$) totius caulis exhibens, rami primarii 0—1 (—2) plerumque monocephali, erecti; capitula 1—2 (—3), interdum tota planta (cum caulibus lateralibus) ad 10 cephalia; involucrium 11—12 mm longum ovatum denique depressum; squamae sublatiusculae obtusiusculae v. (intimae) acutae, obscurae, dense pilosae, pilis canescentibus basi obscuris 2—2,5 mm longis, mediocriter v. disperse glandulosae, modice v. \pm dense floccosae, intimae dilute marginatae; pedunculi consimiles, cani, 1—3 bracteis obsiti; flores aureolitei, ligulae apice leviter ciliatae, stylus obscurus, achaenia atra.

Hab. Vorarlbergia: In iugo Arlberg (Murr); Tirolia: Antholz (Huter), Bergeralpe in v. Virgental (Gander); Helvetia: Samaden (Candrian); in alpe Pianasio pr. Fusio (Chenevard)? — Flor. Iul.—Aug.

Tab. 156. *H. arolae* Murr ssp. *arolae* M. (e iugo Arlberg; leg. Murr). 1. Apex ligularum. 2. Squama. 3. Pedunculus sub involucrio. 4. Foliorum margo.

Subspecies **Binzii** Zahn, Hier. d. Schw. (1906) p. 395. Caulis ad 15 cm altus, usque ad basin pilosus floccosusque et sparsim glandulosus. Folia rosularia c. 5, exteriora obovato-v. oblongo-spathulata apice rotundata, reliqua lanceolato-spathulata v. lanceolata acutiuscula mucronata, utrimque sat dense pilosa (2—3 mm), leviter sinuato-denticulata, saturate viridia subglaucescentia, in petiolum longe angustata, in margine obsolete glandulosa; caulina 3—4 lanceolata acuta saepe subundulata basi angustata, \pm dentata, dentibus apice glanduliformibus, superiora \pm linearia. Bractee 2—3 lineares. Acladium ad 30 mm longum, capitula 1—2, squamae angustae atrae acutae sat dense breviterque pilosae, disperse tenuiterque glandulosae, exteriores angustae laxae basin versus subfloccosae. Pedunculi cani disperse glandulosi modice pilosi. Reliqua prioris.

Hab. Helvetia: In m. Vorder-Glaernisch (Binz!).

Habitu *H. Gaudini* Christener simile, sed foliis caulibusque tenuiter glandulosis differt.

Subspecies **macrocalathium** Zahn, in Koch Syn. (1901) p. 1848. Caulis 30—35 cm altus gracilis \pm dense floccosus, usque ad basin subpilosus disperseque glandulosus; interdum caules laterales evoluti sunt. Folia radicalia ad 10, interiora sat magna obovata v. elliptica v. oblonga v. oblongo-lanceolata, breviter longeve petiolata, in petiolum decurrentia, exteriora basi saepe \pm truncata, obtusa v. acutiuscula, interiora \pm acuta, omnia praecipue basin versus (more *H. vulgati* v. *H. humilis*) grosse sinuato- v. inciso-dentata v. serrato-dentata, dentibus late triangularibus v. triangulariter lanceolatis patentibus saepe parvis immixtis, saturate et \pm sordide viridia, supra sat dense breviterque subhirsuta v. glabrescentia, in parte aversa modice denseve pilosa, pilis brevibus mollibus, in margine nervoque dorsali et in petiolo breviter subvillosa, praeterea glandulis valde dispersis obsita; caulina (0—) 1 (—3), inferius lanceolatum basi angustatum subpetiolatum, superiora lanceolata v. linearia. Inflorescentia furcata (1—) 2—3 (—4) cephalia \pm indeterminata suprafastigiata; acladium 2—9 cm (— $\frac{1}{2}$ totius caulis) longum, rami primarii 1—2 graciles erecti mono- (rarius 2-) cephalia. Involucrium sat conspicuum ad 14 mm longum semiglobosum denique truncatum, squamae angustae acuminatae acutiusculae (interiores acutae), subatrae dilute marginatae, pariter ac pedunculi cani modice v. dense villosae, parum glandulosae et \pm dense floccosae. Flores saturate lutei, ligulae apice \pm sparsim ciliatae; stylus obscurus, achaenia atra.

Tirolia: In iugo Brenner: Zeragalpe et Schluesseljoch (Huter), Antholz (Huter), Bergeralpe in v. Virgental (Gander); Ahrntal (Ausserdorfer).

Tab. 157. *H. arolae* Murr ssp. *macrocalathium* Zahn (e iugo Brenner, leg. Huter). 1. Apex ligularum. 2. Squama. 3. Pedunculus sub involucri. 4. Caulis portio. 5. Foliorum margo.

Subspecies **subsenile** Zahn, in Koch Syn. (1901) p. 1849. Caulis 15—25 (—30) cm altus subfloccosus, subpilosus subglandulosus 1—2 (—4) cephalus. Folia sat parva obovata, elliptica v. oblongo-lanceolata, obtusa v. subacuta, basi ± in petiolum decurrentia, subtruncata v. angustata, sordide v. subcanoviridia utrimque pilosa, glandulis nonnullis parvis obsita, basin versus ± dentata; caulinum 0 v. bracteiforme. Acladium $\frac{1}{3}$ — $\frac{1}{2}$ totius caulis; involucri obscurum, 8—11 mm longum, sparsim mediocriter floccosum, breviter obscureque pilosum, disperse modiceve glandulosum, squamis obtusiusculis v. acutis; ligulae apice breviter subciliatae.

a) **genuinum** Zahn, caule humiliore sparsim glanduloso, involucri densius pilosis.

1) **obtusum** Z., squamis exterioribus obtusis. — Tirolia: In iugo Brenner (Huter).

2) **subacutum** Z., squamis angustioribus acutis. *H. senile* A. Kerner magis affine. — In iugo Brenner: Platzerberg et alpe Valming (Huter); Carinthia: Višbachalp pr. Raibl (Huter).

3) **macradenium** Zahn, in Koch Syn. l. c., caule ad 30 cm alto, acladio ad 6 cm longo, folio caulino 1 lanceolato dentato v. lineari; glandulis numerosioribus partim longis, in foliis ± solitariis in caule usque ad basin descendentibus. — Višbachalpe pr. Raibl (Huter).

Habitu *H. incisum* v. *H. senile* A. Kerner, sed praecipue foliis in margine glandulis nonnullis obsitis differt.

92. Hieracium Thomasianum Zahn, in Schinz et Kell., Fl. d. Schweiz ed. 2 II (1905) p. 315; Zahn, Hierac. d. Schw. (1906) p. 394; *H. hypochaeroideum* A.-T. in Sched. p. p.; = **atratum—glanduliferum** Zahn l. c.

Caulis 10—35 cm altus gracilis v. crassiusculus, usque ad basin floccosus, modice pilosus et molliter glandulosus, saepe caulibus lateralibus praeditus. Folia rosularia oblonga v. oblongo-lanceolata obtusiuscula v. acuminata, dentata v. grosse dentata, interiora sat magna, omnia sensim in petiolum ± alatum angustata, lutescenti-viridia, utrimque sat dense breviterque pilosa disperseque glandulosa; caulina 1—2 (—3), inferius lanceolatum grosse dentatum, summa elongata linearia. Acladium 3—7 cm longum, rami primarii 1—3 (—4) valde remoti graciles monocephali v. simpliciter ramosi, capitula (1—) 2—3 (—7); involucri 12—14 mm longum semiglobosum, squamae e basi latiuscula longe acuminatae acutiusculae v. acutae, dense obscureque pilosae, modice floccosae glandulosaeque. Flores lutei, stylus obscurus, ligulae apice breviter ciliatae, achaenia subatra.

Hab. Helvetia: Ad pedes m. Nufenen in v. Eginental, 2200 m (Zahn); forma minus glandulosa in m. Sasso negro (Chenevard) et in v. Piora (Bernoulli) Helvetiae australis. — Flor. Iul.—Aug.

Habitu *H. cirrati* macrocephali, sed foliis praecipue in margine distincte glandulosis differt.

Tab. 158. *H. Thomasianum* Zahn (e v. Eginental legi). 1. Apex ligularum. 2. Squama. 3. Pedunculus sub involucri. 4. Foliorum margo.

93. Hieracium Kuekenenthalium Zahn, Hierac. d. Schw. (1906) p. 397; = *alpinum—bifidum—vulgatum* Zahn (*Bocconei—rauzense*).

1. Involucri sat magnum denique late depressum, 10—11 mm longum, canescens, sat dense canopilosum, modice, in squamarum marginibus dense floccosum.

Subspecies **Kuekenenthalium** Zahn l. c. Caulis ad 50 cm altus, tenuis v. crassus, striatus,

v. *angulato-striatus*, saepe usque in superiorem tertiam partem violaceus, usque ad basin modice pilosus, 1—3 (in basi ipsa ad 5) mm, floccosusque et obsolete glandulosus, substrictus. Folia rosularia plerumque pauca, caulis saepe hypophyllopodus, foliis caulinis infimis confertis folia rosularia et caulina inferiora plerumque magna late lanceolata valde elongata ad 20 cm longa 3 cm lata, longe in petiolum late alatum basi late vaginantem angustata, sat longe acuminata acutiuscula v. pleraque acuta, dilute lutescenti-viridia v. fere graminea, subtus pallidiora, utrimque submodice pilosa, 0,5—1 mm (pilis basi \pm incrassatis), in margine petioloque densius pilosa, 1—3,5 mm, remote dentata, inferiora saepe \pm denticulata; caulina 8—12, ima magna, media summaque magis remota subcito decrescentia, sursum basi sensim brevius angustata v. cuneiformia sessilia, sed longius acuminata saepe grossius dentata, summa lineari-lanceolata v. linearia. Acladium ad 25 mm longum, rami primarii 3—8, superiores \pm approximati, inferiores ex alis foliorum superiorum caulinatorum orti, suprafastigiati, simpliciter v. dupliciter ramosi graciles oblique erecti substricti subrigidi; capitula pauca v. ad 20, denique late ventricosa truncata, squamae exteriores angustae, interiores e basi lata acuminatae obtusiusculae v. acutae dilute marginatae (exteriores obscure canae), subglandulosae, sat dense pilosae, pilis canescentibus basi atris 1—2 mm longis, modice, in margine dense floccosae; pedunculi albidocani saepe obscure violacei, modice pilosi glandulosique. Flores aureo-lutei, ligulae apice sparsim ciliatae, achaenia subatra.

Hab. Tirolia: Pr. Galtür v. Paznaun (Kuekenenthal, Zahn); Vorarlbergia: In iugo Arlberg (Murr), rarissime; Helvetia: Maienwand (Favrat).

Habitu H. Bocconeii Griseb., sed squamis sat dense pilosis, modice, in margine dense floccosis etc. differt.

Tab. 160. *H. Kuekenenthalianum* Zahn ssp. *Kuekenenthalianum* Z. (pr. Galtür legi). 1. Squama. 2. Pedunculus sub involucro. 3. Foliorum margo.

Obs. Haec subspecies, anno 1908 pr. Galtür a me lecta, in Hieraciothecae Europ. cent. IV publicabitur.

2. Involucrum sat magnum dense floccosum disperse pilosum subglandulosum.

Subspecies **praxmaricum** Murr, Poell et Zahn. Caulis ad 35 cm altus tenuis v. gracilis, superne sparsim glandulosus dense floccosus subpilosus, inferne \pm glandulosus subfloccosus densius pilosus, 2—3 mm, saepe subviolaceus, plerumque flexuosus. Folia rosularia saepe pauca sat longe petiolata sat magna late lanceolata acutiuscula v. acuminata acuta, in petiolum anguste alatum longe decurrentia, in margine subserrato-dentata, dentibus acutis apice glanduliformibus saepe sat magnis, supra viridia glabrescentia, subtus disperse pilosa, in margine saepe sparsim floccoso glandulis nonnullis parvis et pilis sat densis 1—2,5 mm longis obsita, in nervo dorsali saepe subfloccoso et in petiolo praecipue basin versus sat dense pilosa, 2—3,5 mm; caulina ad 5 \pm sensim decrescentia, lanceolata, inferius breviter petiolatum, reliqua basi angustata sessilia dentata, summa lineari-lanceolata acutiora subtus subfloccosa. Inflorescentia laxa paniculata, acladium ad 25 mm longum, rami primarii 1—3 (—4) valde remoti, ordines axium 3—4, capitula pauca vel ad 5—10, interdum caules laterales evoluti. Involucrum 9—11 mm longum ovatum denique latius depressum, squamae e basi latiuscula acuminatae acutiusculae v. acutae obscure canescentes, \pm dense floccosae, subglandulosae disperse pilosae. Pedunculi consimiles. Flores aureo-lutei, ligulae apice fere glabrae, stylus obscurus, achaenia atra.

Hab. Tirolia: In valle Längental supra Praxmar (Poell).

Verosimiliter formulae *vulgatum*—*pseudarolae* respondens.

Tab. 159. *H. Kuekenenthalianum* Zahn ssp. *prarmaricum* M. P. Z. (e loco cl., leg. Poell.).
1. Squama. 2. Pedunculus sub involucre. 3. Caulis portio. 4. Foliorum margo.

3. Involucrum minus, ovatum denique depressum 9—10 mm longum, subatrum, sat dense pilosum sparsim floccosum.

Subspecies **brachypogon** Zahn, in Koch Syn. (1901) p. 1850 (sub dolichaeto); in Schinz et Kell., Fl. d. Schw. ed. 2 II (1905) p. 315; Hierac. d. Schw. (1906) p. 397. Caulis 20—40 cm altus tenuis v. gracilis, usque ad basin floccosus pilosus (1—3 mm) et disperse minuteque glandulosus. Folia rosularia pauca v. compluria, breviter v. longe petiolata, sat parva v. submagna, exteriora ovata v. oblonga obtusaeque saepe emarcida, interiora late lanceolata v. lanceolata utrimque sensim attenuata \pm acuta, supra subtusque submodice v. sparsim pilosa, 0,5 mm, in margine petioloque modice v. sat dense pilosa, 1—3 mm, dilute gramineo-viridia subglaucescentia, irregulariter \pm grosseque multidentata v. aequaliter breviterque dentata; caulina 4—5 subcito decrescentia, inferiora in petiolum late alatum angustata, sequentia lanceolata basi angustata subpetiolata, summa basi angustata sessilia lineari-lanceolata v. linearia subtus subfloccosa. Acladium 10—40 mm longum, rami primarii 3—6, saepe nonnulli caules laterales evoluti, ordines axium 3—4, capitula (3—) 5—15 (—30); involucrum pilis canescentibus brevibus subvillosum, mediocriter glandulosum, sparsim floccosum; squamae angustae (exteriorae angustiores) obtusiusculae v. acutiusculae in margine modice floccosae. Pedunculi albido-cani modice glandulosi pilosique. Flores saturate lutei, ligulae apice distincte ciliatae, stylus obscurus, achaenia atra.

Hab. Helvetia: In valle Sertig pr. Davos versus Tällimähder 20—2100 m (Zahn); in v. Dischma pr. Davos (de Tavel).

Verosimiliter formulae *Bocconeii*—*bifidum* respondens.

Exsiccata: C. H. Zahn, Hieraciotheca Europaea no. 279.

Tab. 161. *H. Kuekenenthalianum* Zahn ssp. *brachypogon* Zahn (in valle Sertig legi).
1. Squama. 2. Pedunculus sub involucre. 3. Foliorum margo.

Subspecies **borzawae** Wol. et Zahn. Caulis ad 30 cm altus flexuosus modice breviterque pilosus, glandulis nonnullis parvis obsitus, superne floccosus, basi rubescens v. viridis et rubro-maculatus, interdum usque ad superiorem quartam partem \pm rubro-coloratus. Folia rosularia numerosa, exteriora minora elliptica rotundata v. subovalia denticulata, reliqua late rhomboideo-lanceolata ad 8:3,5 cm longa, sat breviter petiolata, utrimque attenuata, acuminata acuta, serrato-dentata, utrimque interdum 3—4 dentibus grossis minoribus alternantibus apice glanduliformibus munita, supra subtusque breviter subpilosa v. in parte superiore glabrescentia, in margine petioloque subdensius pilosa et haud raro subrubrescentia, rigidiuscula; caulina 4, inferius late lanceolatum utrimque attenuatum dentatum, reliqua lanceolata subdentata, summum linearilanceolatum v. lineare. Acladium 10—20 (—25) mm longum, rami primarii ad 4 oblique erecti, ordines axium 3, capitula 8 (—11). Involucrum 10 mm longum ovatum, squamae e basi latiuscula acuminatae acutiusculae et acutae nigrae, sat dense obscureque brevipilae glandulosaeque; pedunculi consimiles, cani, 3 bracteis linearibus obsiti. Flores dilute lutei, stylus obscurus, ligulae apice subciliatae v. \pm glabrae.

Hab. Hungaria bor.: In m. Wysokij Werch in Borzawa Ruthenica (E. Wołoszczak).

Planta interdum ad 10 cm tantum alta 1—2 (—3) cephalae. Verosimiliter formulae *caesium*—*alpinum* respondens.

94. Hieracium Bocconeï Griseb. = **alpinum—vulgatum** Zahn; Griseb., Comment. (1852) p. 35; A.-T., Hier. Alp. franç. (1888) p. 42; Zahn, in Koch Syn. (1901) p. 1851; Hierac. d. Schw. (1906) p. 395; *H. hispidum* Fries, Epicr. (1862) p. 46 p. p.: nec Symb. (1848) p. 168.

Phyllopodum v. hypophyllopodum rarius aphylllopodum. Caulis 1—6 cm altus, tenuis v. crassiusculus, erectus v. subascendens, strictus v. \pm flexuosus, striatus, inferne saepe \pm purpureus. Folia rosularia florendi tempore (0—) 2—8, interdum omnia iam emarcida, gramineo- v. saturate viridia v. subcanescentia, mollia v. \pm rigida, exteriora ovato-lanceolata v. elliptica, reliqua oblongo-lanceolata, omnia in petiolum \pm longum saepe \pm alatum angustata \pm longe acuminata, exteriora obtusiuscula, reliqua acuta, interdum apice \pm plicata, ab apice ad basin dentata v. utrinque 3—5 dentibus antrorsum versis acutis grossis apice glanduliformibus minoribus immixtis munita; caulina 2—5 (—12) \pm sensim decrescentia, infima radicalibus similia, in petiolum late alatum basi subvaginantem angustata, reliqua basi cuneiformia sessilia, summa lineari-lanceolata v. linearia, integerrima, in bracteas decrescentia. Inflorescentia laxè paniculata v. alte furcata suprafastigiata; acladium brevissimum (interdum summa 2 capitula \pm coniuncta) v. ad 5 cm longum v. longius, rami primarii 1—4 subremoti suberecti, monocephali v. simpliciter, rarius dupliciter ramosi, longiores foliis parvis v. bracteiformibus obsiti; capitula (1—) 3—8 (—12, in planta culta ad 30); involucrium (10—) 12—14 (—15) mm longum ovatum vel \pm semiglobosum, denique basi truncatum; squamae angustae v. e basi latiuscula acuminatae obtusae v. interiores \pm acutiusculae v. pleraeque \pm acutae, obscurae v. atrae, interiores dilutius (plerumque viridi-) marginatae. Bracteae 2—3. Pili in involucrio nulli v. sparsi v. interdum dispersi, in caule dispersi v. modice numerosi, breves, basin versus densiores longioresque, ad 4 mm longi, in foliis utrimque modice numerosi, 2 mm, in margine nervoque dorsali et in petiolo sat densi, ad 4 mm longi. Glandulae in involucriis pedunculisque densissimae v. densae, in caule superne subnumerosae, deorsum \pm cito deminutae, sed usque ad basin descendentes, in foliis utrimque et praecipue in margine dispersae v. subnumerosae. Flocci in involucrio sparsissimi, in squamarum margine et basi subnumerosiores, rarius magis evoluti, pedunculi \pm cani, caulis usque ad basin deminute floccosus; folia in margine fere semper floccis nonnullis v. numerosioribus obsita, caulina haud raro in nervo dorsali, summa etiam in tota parte aversa subfloccosa. Flores dilute v. saturate lutei, leviter pilosi, ligulae apice plerumque breviter ciliatae, stylus obscurus, achaenia denique atra.

Hab. locis silicaceis Alpium et Sudetorum. — Flor. Iul. Aug.

Habitu *H. vulgati* oligocephali, sed capitula plerumque maiora, folia subglandulosa etc.

Dispositio gregum:

- a) *Bocconeï* Zahn, in Koch Syn. (1901) p. 1852. Hypophyllopodum v. aphylllopodum; foliis in margine distincte glandulosis, capitulis plerumque maioribus, acladio longiore. — Ssp. *Bocconeï*, *Imhofii*, *ramiparum*, *devexicolum*.
 - b) *Glandulosodentatum* Zahn. Phyllopodum, rarius hypophyllopodum; foliis caulinis parum numerosicito decrescentibus; reliqua ut in a. — *H. Vollmanni* simile. — Ssp. *glandulosodentatum*, *engadinense*.
 - c) *Simia* Zahn l. c.: foliis subglandulosis, habitu omnino *H. vulgati*; formulae *Bocconeï vulgatum* respondens. — Ssp. *simia*.
- a) *Bocconeï*.

1. Squamae angustae acutiusculae, modice v. sat dense floccosae.

Subspecies *Imhofii* Zahn, Hierac. d. Schw. (1806) p. 398. Caulis 20—40 cm, dense floccosus, saepissime phyllopodus; folia caulina 3—6 saepe grosse dentata, superiora in parte

aversa \pm dense floccosa. Capitula 3—7, involucrium 9—10 mm longum, densissime glandulosum. Pedunculi albocani dense glandulosi subpilosi. Ligulae aureae apice sparsim ciliatae.

Helvetia: In valle Sertig pr. Davos versus Taelimähder 20—2100 m legi.

Exsiccata: C. H. Zahn, Hieraciotheca Europaea no. 278.

1* Squamae \pm effloccosae atrovirides v. atrae plerumque latiusculae et \pm obtusae.

2. Involucrium parvum ovatum 9 mm longum denique basi rotundatum.

Subspecies **ramiparum** Zahn, Hierac. d. Schw. (1906) p. 398. Caulis 30—40 cm altus tenuis subpilosus, 1—2 mm, subfloccosus, disperse glandulosus, hypophyllopodus, plerumque usque ad basin longe ramosus. Folia caulina ad 8 lanceolata v. linearilanceolata sensim decrescentia, infima in petiolum alatum longe attenuata, sequentia magis magisque brevius attenuata, acuminata, pleraque acuta, omnia rigida sordide viridia glaucescentia subtus pallidiora, denticulata v. breviter dentata, disperse, v. in margine nervoque dorsali praecipue basin versus subdensius pilosa, 0,5—1 (—2) mm. Rami erecti v. oblique erecti foliati, interdum caules laterales evoluti, capitula pauca v. ad 20. Squamae atrovirides obtusae, intimae acutae viridi-marginatae, \pm effloccosae, dense glandulosae, sparsim v. disperse et obscure pilosae. Pedunculi consimiles, dense floccosi. Flores saturate lutei, ligulae apice parum ciliatae.

Tirolia occid.: Inter Galtuer et iugum Zeinis legi.

Tab. 163. *H. Bocconeii* Griseb. ssp. *ramiparum* Zahn (e loco classico!). 1. Apex ligularum. 2. Squama. 3. Pedunculus sub involucrio. 4. Foliorum margo.

2* Involucrium maius, denique crasse ovatum v. semiglobosum depressum, 10—12 (—14) mm longum.

Subspecies **devexicolum** Zahn, in Schinz et Kell., Fl. d. Schw. ed. 2 II (1905) p. 316; Hierac. d. Schw. (1906) p. 399. Hypophyllopodum v. phyllopodum. Caulis ad 60 cm altus firmus tenuis v. crassus breviter subpilosus, 1— (basin versus) 2,5 mm, tenuiter subglandulosus disperseque floccosus. Folia rosularia 0 v. 1—2 oblonge lanceolata, in petiolum late alatum longe attenuata, acuminata, obtusiuscula v. acuta, denticulata v. more *H. vulgati* grosse dentata, dentibus saepe in petiolum descendentibus; caulina 6—12 sensim decrescentia, inferiora saepe sat magna basi fere petiolata, sequentia basi breviter attenuata sessilia, late lanceolata, dentibus numerosis maioribus minoribus alternantibus, summa lanceolata v. lineari-lanceolata; omnia rigida sordide (saepe sublutescenti-) viridia, subtus pallide viridia, utrimque breviter subpilosa, in margine petioloque densius pilosa, 0,5—1 (—2) mm, disperse glandulosa, superiora subtus \pm floccosa. Acladium 10—35 mm longum, rami primarii (2—) 4—7 (v. complures), plerumque in caulis superiore tertia parte inserti, longi, foliis parvis obsiti, simpliciter v. dupliciter ramosi, capitula (4—) 8—15 (—25); in axillis foliorum inferiorum saepe rami dense foliosi haud floriferi evoluti sunt. Involucrium crasse ovatum, squamae e basi lata acuminatae obtusiusculae v. acutae subnigrae, pariter ac pedunculi canofloccosi dense nigroglandulosae disperse modiceve pilosae subeffloccosae, pilis obscuris basi atris, exteriores angustissimae, interiores viridi-marginatae.

Helvetia: Maienwand (Zahn) et Eginental (Favrat). Pedemontium: in alpe Sylvelio supra vallem Vogna (Wolf).

Subspecies **Bocconeii** Griseb. l. c. Caulis 2—5 dm altus, superne densissime longeque glandulosus, deorsum magis magisque pilosus, inferne sat dense pilosus, 0,5—3,5 mm, saepe violaceus, tenuis v. crassiusculus, hypophyllopodus v. aphylllopodus, rarius phyllopodus. Folia rosularia 0 v. 1—2 oblongo-lanceolata acutiuscula v. acuta, in petiolum alatum longe angustata, denticulata v. plerumque dentata v. serrato-dentata, pluridentata; caulina (2—) 4—8 sensim v.

subcito decrescentia late lanceolata v. summa lineari-lanceolata, serrato- v. grosse longeque dentata, inferiora basi angustata fere subpetiolata, superiora basi breviter attenuata sessilia: omnia folia dilute (sublutescenti-) viridia, utrinque subpilosa, in margine et nervo dorsali praecipue basin versus sat dense pilosa, disperse glandulosa. Acladium 10—30 (—55) mm, rami primarii plerumque (1—) 2—3, interdum caulis ex omni ala ramosus, ramis ad 10, inferioribus valde elongatis cauliformibus foliosis, simpliciter v. dupliciter ramosis, capitula (1—) 3—7 (—30). Involucrum 10—12 (—14) mm longum semiglobosum denique ventricosodepressum: squamae sublatae acuminatae obtusae v. acutiusculae et acutae, ± nigrae, densissime ± longeque glandulosae, effloccosae v. basin versus parceffloccosae; pedunculi cani densissime glandulosi. Flores dilute v. saturate lutei.

Variat: 1) normale Zahn, Hierac. d. Schw. (1906) p. 400. Involucris pedunculisque epilosis densissime glandulosis, squamis plerumque subeffloccosis.

- a) *verum* Zahn l. c. Caulis apice ramosus saepissime oligocephalus, involucris atro-viridibus crassis. — Helvetia: Oberalppass (Kaeser), Engadina superior et in Alpibus Italicis adiacentibus haud infrequens, p. e. Casaccia, Maloja — Samaden, Val Fex, V. Roseg, V. Bevers, Albula, Bernina, Puschlav, V. di Campo; Engadina inferior: Murtera supra Boscha pr. Ardez (Bernoulli); Tschams in v. Samnaun (Kaeser); in convallibus Flüela, Dischma et Sertig, in alpe Silvretta (de Tavel, Muret, Zahn, Bruegger), V. Avers: Croet-Campsut (Hegelmaier), inter Stalla et Allagh (Bruegger); ad limites Vorarlbergiae: in iugo Arlberg (Murr), in alpe Gross-Vermont (Richen); Tirolia: Kellerjoch pr. Schwaz (Murr), Galtür in valle Paznaun (Zahn), Kreitspitze pr. Ranalt (Sarnthein), Oberiss (Murr), Sellrain (P. Strobl et Gremblach), Hl.-Kreuz et Gurgl in v. Oetz (Zahn), Gschnitztal (A. Kerner), Platzerberg, Vennatal, Pontigl (Murr), Jaufen (Freyn), Innerafers (Heimerl), Schlern (Hellweger), Franzenshöhe (Freyn), Antholz (Huter), Mühlwald, Wolfeskofel, Trippach in v. Ahrn 19—2200 m (Treffer), Virgen (Ausserdorfer), Schleinitz pr. Lienz (Gander), Kals (Huter), Windisch-Matrei (Unterpranger); Stiria: Frauenalpe pr. Murau 1950 m, Hradofen pr. Predlitz 1900 m, Turracher Höhe 1800 m (Fest, de Benz). — Sabaudia: Planpraz pr. Chamonix (Hegelmaier).
- b) *minoriceps* Zahn, l. c. Involucrum minus, ovatum, squamis angustioribus. — Cum a) p. e. in v. Sertig, Antholz, Trippach, Innerafers etc.
- c) *grossidens* Z. l. c., foliis longe dentatis (ad 20 mm). — Maloja (Touton).
- d) *davosense* Zahn, Mitteil. bad. bot. Ver. (1899) p. 144. Robustum, usque ad basin ramosum, ramis elongatis foliatis cauliformibus, capitulis ad 30 densissime longeque nigro-glandulosis, squamis latis subatris subeffloccosis; foliis caulinis c. 8 magis grosse dentatis. — In valle Sertig pr. Davos 1900 m (Zahn). — Exstat f. latifolia, foliis maximis ovato-lanceolatis glanduloso-dentatis, in declivitatibus ad viam infra pagum Sertig-Doerfli.
- e) *subcinereum* Zahn, squamis subfloccosis, foliis praecipue superioribus in parte aversa subfloccosis, in nervo dorsali ± dense floccosis. — Maloja (Touton), Murtera supra Boscha (Bernoulli).

- 2) *pilosiceps* Zahn l. c., involucris pedunculisque pilis nonnullis v. dispersis, rarius fere mediocriter numerosis (et glandulis numerosis v. numerosissimis) obsitis.
- a) *verum* Zahn l. c., involucris crassis, squamis latis. — Val Avers. V. Sertig. Surlej, Maloja; Trippach et Wolfeskoff in v. Ahrn, Tschamp pr. Kals 2100 m, inter Ridnaun et Grohmannhütte 1400 m (Vollmann), Gschnitztal, Jaufen, Innerafers, Franzenshöhe.
- b) *minoriceps* Zahn l. c., capitulis minoribus ovatis. — V. Avers (f. *angustifolia*), Murtera supra Boscha; Turracher Höhe et Kühboden pr. Kanning Stiriae (de Benz).
- 3) *sempronigenum* Favre et Zahn, Bull. herb. Boiss. (1903) p. 1133; *semproniacolum* Zahn, in Schinz et Kell., Fl. d. Schw. ed. 2 II (1905) p. 316. Canoviride subdensius pilosum gracile. Folia subtus \pm floccosa, in nervo dorsali dense floccosa, caulis superne incanus, squamae mediocriter floccosae, involucria minora quam in typo, ovata.
- a) *verum* Zahn l. c., involucris epilis dense glandulosis. — Vallesia: Mayens de Vex (Wolf), in iugo Simplon (Favre), in convallibus Saflich-, Mete- et Melchtal pr. Binn (Chenevard). — Forma *incisodentatum* Favre, Bull. herb. Boiss. (1903) p. 1133, foliis inciso- et serrato-dentatis, in iugo Simplon: Croix de Schalbet (Favre).
- b) *pilosiceps* Zahn l. c. p. 401, squamis pedunculisque sparsim pilosis. — Croix de Schalbet (Favre).

Exsiccata: Flora Austro-Hung. 3344; Doerfler, Herb. norm. 3129 [f. 1) normale et 2) *pilosiceps*]; Zahn, Hieraciotheca Europ. 277.

b) Glandulosodentatum.

Subspecies *glandulosodentatum* Uechtr., Jahresber. schles. Gesellsch. vaterl. Kult. (1875); *H. tortuosum* Tsch. exsicc.! Caulis (10—) 20—30 (—40) cm altus \pm crassiusculus substriatus, infra medium \pm pilosus, 2 mm, et subfloccosus, superne subglandulosus et densius v. mediocriter floccosus. Folia intense viridia subrigidiuscula, supra fere epilosa, marginem versus disperse, in margine subglanduloso nervoque dorsali densius pilosa, 1—2 mm, petiolus subvillosus, 3 mm; rosularia 4—6, anguste v. late lanceolata acutiuscula vel longe acuminata, sensim in petiolum fere haud alatum angustata, saepissime fere usque ad apicem irregulariter multidentata, dentibus partim longis apice longe glanduloso-apiculatis, exteriora interdum \pm obtusiuscula; caulina 1—2 (—3) radicalibus similia, sed in petiolum brevem \pm alatum angustata v. angustata sessilia, angustius v. lineari-lanceolata, acuta v. longe acuminata, denticulata v. subintegerrima, rarius dentibus nonnullis maioribus munita, in margine floccis nonnullis, in parte aversa et praecipue in nervo dorsali numerosioribus praedita. Inflorescentia laxa paniculata v. altefurcata supra fastigiata, acladium 5 mm — $\frac{1}{3}$ (— $\frac{1}{2}$) totius caulis longum, capitula (1—) 2—4 (—7), summa 2 interdum fasciata. Involucrum 12—13 mm longum ovatum denique basi truncatum, sparsim disperseve pilosum, 1—2 mm, dense glandulosum, disperse, basin versus subdensius floccosum; squamae latiusculae obtusiusculae, subatrae v. atrae, interiores angustiores acutiusculae, haud raro dilutius marginatae. Flores aureolitei, stylus obscurus, ligulae apice \pm breviter ciliatae.

Verosimiliter formulae *nigrescens* < *vulgatum* respondens, ergo *H. Vollmanni* affine, sed habitu *H. vulgati* formis alpestribus simile.

Hucusque in montibus Asciburgensibus tantum inventum, (1000 —) 13—1500 m. p. e. Koppenplan, Kiesberg, Melzerlehne, Melzergrube, Auparand, Brunnberg, in pratis ad fl. Kl. Lomnitz supra Melzergrund, Kleine Koppe, Schwarze Koppe, obere Teichränder, Seiffengrube, Kleiner Teich; Kleine Sturmhaube, Krkonos, Weisswassergrund, Ziegenrücken, Grenzbauden (Uechtritz, Freyn, Pax, Schneider etc.).

Tab. 162. *H. glandulosodentatum* Uechtr. (e m. Koppenplan, leg. A. Schultz). 1. Apex ligularum. 2. Squama. 3. Pedunculus sub involucro. 4. Foliorum margo.

Subspecies **engadinense** Zahn; ssp. *Bocconei* β *engadinense* Zahn, Hierac. d. Schw. (1906) p. 401. Caulis ad 45 cm altus, superne dense floccosus glandulosusque et molliter subpilosus, inferne densius pilosus minus floccosus subglandulosus. Folia dilute viridia, rigidiuscula, utrimque sat dense pilosa, disperse glandulosa, irregulariter dentata, interdum nonnullis dentibus grossis longisque munita, radicalia subnumerosa, oblongo-lanceolata v. lanceolata, obtusiuscula v. acuminata acuta, exteriora minora obtusiora, saepe tantum denticulata, interdum florendi tempore iam \pm emarcida, interiora maiora grossius dentata; caulina 4—5 (—8) sensim v. plerumque subcito decrescentia, summa in margine subtusque parum floccosa. Inflorescentia saepe valde indeterminata (rhizoma interdum pluricaule), ramis primariis inferioribus valde elongatis foliosis, acladium 1—6 cm longum, ordines axium ad 4, capitula (5— 10—20 —30). Involucrum 10—12 mm longum semiglobosum, squamae sublatiusculae acutiusculae v. acutae obscurae parum subviridi-marginatae dense glandulosae sparsim floccosae epilossae. Pedunculi obscure cani densissime glandulosi subepilossi. Ligulae luteae parum ciliatae, stylis obscuris.

A ssp. *Bocconei* differt caule phyllopodo, capitulis numerosioribus minoribus, foliis caulinis minus numerosis saepe \pm cito decrescentibus. Transitum inter *H. Bocconei* et *H. Vollmanni* sistit.

Helvetia: Engadina superior: Muottas pr. Samaden (Candrian), Lavinergroun, Alp Nova (Rübler et Braun); in valle Sertig pr. Davos (Zahn).

Tab. 164. *H. Bocconei* Griseb. ssp. *engadinense* Zahn (pr. Samaden leg. Candrian). 1. Squama. 2. Pedunculus sub involucro. 3. Foliorum margo.

c) Simia.

Subspecies **simia** Huter, apud Zahn in Koch Syn. (1901) p. 1852, Hierac. d. Schw. (1906) p. 401; *H. Bocconei subvulgatum* Zahn, Mitt. bad. bot. Ver. (1899) p. 143. Caulis 30—50 cm altus, usque ad basin breviter pilosus, usque infra medium \pm floccosus et sparsim glandulosus, hypophyllopodus, v. folia rosularia 1—3 (—5), florendi tempore haud raro emarcida, caulinis inferioribus similia; caulina 2—6 remota elliptico-lanceolata v. lanceolata, utrimque longe attenuata, dentata v. serrato-dentata, dentibus saepe grossis apice glanduliformibus, utrimque subpilosa v. supra \pm glabra, in margine glandulis solitariis inconspicuis obsita, summa in parte aversa saepe \pm floccosa. Inflorescentia laxè paniculata suprafastigiata, acladium 1—4,5 cm longum, rami primarii 3—5 valde remoti, inferiores longissimi erecti cauliformes simpliciter v. dupliciter ramosi, capitula (3—) 5—10 (—30). Involucrum crassius quam in *H. vulgato*, (9—) 10—12 (—13) mm longum, squamae subangustae, interiores latiusculae obtusiusculae v. acutiusculae, obscurae subviridi-submarginatae (exteriores \pm immarginatae, disperse v. mediocriter floccosae denseque nigroglandulosae, pedunculi consimiles, cani. Flores saturate lutei, ligulis apice fere haud ciliatis stylisque obscuris.

In consortio *H. Bocconei*, formulae *Bocconei—vulgatum* respondens.

Variat: 1) normale Zahn, Hierac. d. Schw. (1906) p. 401, involucris pedunculisque tantum glandulosis. — Helvetia: Maienwand (Touton), inter Ponte et Bevers (Brügger), Casaccia (Christener), Val Sertig (Zahn); Austria: Arlberg (Murr, Hegelmaier), Jaufen (Huter), Galtür (Zahn), Pustertal (Ausserdorfer), Virgen (Gander), Turracher Höhe (de Benz).

2) pilosiceps Zahn l. c., involucris pedunculisque dense glandulosis et \pm disperse pilosis. — Simplon (Bernoulli), Samnaun (Kaeser).

Tab. 165. *H. Bocconei* Griseb. ssp. *simia* Huter (e iugo Arlberg, leg. Murr). 1. Dentes ligularum. 2. Squama. 3. Pedunculus sub involucri. 4. Foliorum margo.

95. Hieracium Vollmanni Zahn, Koch Syn. (1901) p. 1853 — *alpinum*—*vulgatum*—*silvaticum* Zahn l. c.; Hierac. d. Schw. (1906) pr. 402. Caulis (15—) 30—50 cm altus subfloccosus, superne dense glandulosus sparsimque pilosus, interne subpilosus, phyllopodus. Folia dilute v. obscure viridia \pm pilosa et praecipue in margine densius piloso sparsim glandulosa; radicalia 3—8, ovata, ovato- v. oblongo-lanceolata, breviter longeve petiolata, basi truncata v. rotundata v. \pm in petiolum \pm dense pilosum contracta v. sensim decurrentia, interdum fere subcordata, apice obtusa v. acutiuscula v. \pm acuminata, denticulata v. praecipue basin versus grosse dentata, dentibus inaequalibus apice glanduliformibus; caulina (0—) 2—4, breviter petiolata v. basi angustata sessilia, oblongo-lanceolata v. lanceolata, \pm grosse irregulariterque serrato-dentata, summum saepius lineare subtus subfloccosum. Inflorescentia laxa subsquarroso-paniculata (more *H. silvatici*) suprafastigiata, acladium 1—5 cm longum, rami primarii 2—3 (—6), inferiores valde remoti arcuato- v. oblique patentes v. erecti, ordines axium 3—4, capitula (3—) 5—10 (—20). Involucrium (9—) 10—12 (—14) mm longum, crasse cylindrico-ovatum v. crasse ovatum basi rotundatum v. truncatum, squamae subangustae v. latiusculae, obtusiusculae v. acutae, obscurae, interiores dilute marginatae, omnes epilosae v. subpilosae, dense densissimeve glandulosae, sparsim modiceve floccosae. Pedunculi consimiles, can, 1—3 bracteati. Flores dilute v. saturate lutei, ligulae \pm ciliatae, stylus obscurus, achaenia subatra.

In consortio *H. Bocconei*. Flor. Iul., Aug.

Habitu *H. Bocconei* v. *H. divisi* Jord. v. *H. atrati*.

Subspecies **Vollmanni** Zahn l. c. Habitu *H. Bocconei*, sed folia rosularia numerosa plerumque longe petiolata, basi truncata v. cito angustata, interdum subcordata, ovata v. oblongo-lanceolata, pluridentata, basin versus tantum grosse dentata; folia caulina (1—) 2—3 (—4). Acladium 1—5 cm, rami primarii 1—4, inferiores valde remoti, capitula 2—5 (—10). Involucrium 10—12 mm longum, pariter ac pedunculi densissime et saepe longe glandulosum, sparsim mediocriterve floccosum.

Formulae *Bocconei*—*silvaticum* respondens.

Variat: 1) epilosum Zahn, in Koch Syn. (1901) p. 1854. Involucrium epilosum. — Helvetia: Val Piora (Bernoulli); inter Maloja et iugum Lunghino (de Tavel), Val Fex (A. et C. Touton), in valle Flüela (de Tavel), Val Sertig (Zahn); Austria: Innervillgraten (Gander), Cellonkogel in iugo Plöcken (Pichler), Brenner (Platznerberg, Griesberg, Schelleberg, Zeragalpe, Pfitscherjoch), pr. Kals et Lesach et in m. Kreuzberg pr. Sexten (Huter), inter Gossensass et Santigjoch 2000 m (Vollmann), in v. Ahrn et Mühlwald (Ausserdorfer), Frauenalpe et Turracher Höhe in Stiria (Fest, Oborny); Bavaria superior: Neureut (Poell).

- 2) *pilosiceps* Zahn (*genuinum* Z. l. c.), involucris pedunculisque disperse pilosis. — In v. Flüela et Sertig (de Tavel, Zahn); in iugo Jaufen (Huter), in v. Breguzzo Tiroliae australis (Porta), Turracher Höhe in Stiria (de Benz). — Forma *H. vulgato* magis affinis: in m. Schlern versus Fassa (Hellweger).

Tab. 166. *H. Vollmanni* ssp. *Vollmanni* Zahn (e v. Sertig, 1950 m, legi). 1. Squama. 2. Pedunculus sub involucrio. 3. Foliorum margo.

Subspecies *grimsulicolum* Zahn, Hier. d. Schw. (1906) p. 403. Folia rosularia magna oblongo- v. late lanceolata, exteriora minora elliptica obtusaque, omnia in petiolum \pm longum breviter angustata, infra medium dentibus 2—3 maximis triangularibus (et aliis minoribus munita, sordide viridia subglaucescentia, disperse breviterque pilosa, 0,5—1 mm; caulina 2—3, ima magna \pm petiolata, petiolis late alatis, grosse dentata. Acladium ad 25 mm longum, rami primarii c. 4 oblique patentes, capitula ad 20. Involucrum 10—12 mm longum, pariter ac pedunculi albido-canotomentosi pilis canescentibus basi obscuris modice pilosum, disperse mediocriterve glandulosum sparsim floccosum.

Helvetia: In declivitatibus Maienwand haud procul ab Gletsch (Wilczek, Zahn).

Formulae *devexicolum*—*silvaticum* respondens.

Tab. 167. *H. Vollmanni* Zahn ssp. *grimsulicolum* Zahn (in Maienwand legi). 1. Squama. 2. Pedunculus sub involucrio. 3. Foliorum margo.

Subspecies *silvaticiforme* Zahn, in Koch Syn. (1901) p. 1854, inflorescentia *H. silvatici*, indeterminata, ramis arcuato- et squarroso-patentibus, foliis disperse glandulosis, caulinis 2—3 (—4), capitulis numerosis sat dense floccosis, pariter ac pedunculi et caulomata superne dense glandulosis, transitum *Bocconeae* ssp. *engadinense*—*silvaticum* praebens, pr. Samaden a Candrian inventa est.

96. *Hieracium tephrodermum* Zahn in Koch Syn. (1901) p. 1854 = *Bocconeae*—*villosum*—*silvaticum* Zahn (incl. *H. subexpansum* Zahn l. c. p. 1855); *H. Bocconeae*—*dentatum* et *Bocconeae*—*incisum* Zahn l. c.; *H. Grenlii* A.-T. et *dentatum hirtum* A.-T. in sched., nec Hier. Alp. franç. (1886) p. 31 neque Lager! (cfr. Murr, in Allg. bot. Zeitschr. (1895) p. 208).

Dispositio gregum:

- a) *Tephrodermum* Zahn, formulae *Bocconeae*—*dentatum* respondens, acladio ad 20 mm longo. — Ssp. *tephrodermum*, *tephrocladum*.
- b) *Subexpansum* Zahn, formulae *Bocconeae*—*incisum* respondens, acladio 20 mm v. ad $\frac{1}{10}$ (— $\frac{1}{2}$) totius caulis longo. — Ssp. *bocconeiforme*, *subexpansum*.
- a) *Tephrodermum* Zahn.

Subspecies *tephrodermum* Zahn l. c. — Caulis gracilis v. crassiusculus subflexuosus striatus subfloccosus subpilosus, superne sparsim disperseve glandulosus, ad 35 cm altus, phyllopodus v. hypophyllopodus. Folia sublutescenti-viridia subrigidiuscula, in parte superiore breviter subpilosa v. modice, in margine dense, in parte aversa disperse mediocriterve pilosa, glanduloso-denticulata v. -dentata, interdum subundulata, praecipue in margine tenuiter disperseque glandulosa: radicalia 0—2 brevius longiusve subalato-petiolata lanceolata utrimque attenuata acuta, in petiolum \pm sensim decurrentia; caulina in caule phyllopodo 3—4, in caule hypophyllopodo ad 7, subcito v. sensim decrescentia, ima in petiolum brevem \pm late alatum angustata, reliqua basi brevius angustata subsessilia v. sessilia longius acuminata, saepe dentibus nonnullis maioribus munita, superiora in nervo dorsali subfloccosa, in bracteas lineares cuspidatas inflorescentiae decrescentia. Inflorescentia laxa paniculata suprafastigiata, acladium

brevissimum v) ad 20 mm longum, rami primarii 2—4 (—5) valde remoti graciles oblique erecti, ordines axium 3, capitula (3—) 5—8 (—15). Involucrum 12—13,5 mm longum ovatum denique late ventricosum-depressum, squamae e basi latiuscula longe acuminatae, obscurae v. atrovirides, dilutius sordideque viridi-submarginatae, modice pilosae, 1—2 mm, mediocriter sat dense glandulosae, glandulis pro maxima parte brevibus, disperse v. fere mediocriter floccosae, exteriores obtusiusculae v. acutiusculae, interiores acutae latius diluteque marginatae apice subbarbulatae, imae saepe sublaxae obscure virides in bracteis 1—2 subulatas atrovirides transeuntes. Pedunculi obscure cani, pilis basi atris 1—2 mm longis subpilosi, subglandulosi. Flores subsaturate lutei, ligulae apice breviter subciliatae, stylus obscurus, achaenia brunneo-atra.

Tirolia: Pillberg inter Zwieselstein et Gurgl in v. Oetzal (Evers); prope Kals versus Berger Törl 2100 m. solo schistaceo (de Handel-Mazzetti).

Tab. 168, fig. A. 1, 2. *H. tephrodermum* ssp. *tephrodermum* Zahn (leg. Evers). 1. Squama. 2. Pedunculus sub involucro.

Subspecies **tephrocladum** Zahn; *H. tephrodermum* Zahn forma, Koch Syn. (1901) p. 1855. Caulis crassiusculus subflexuosus striatus, dense pilosus, 1—3 mm, usque ad basin dense floccosus subcanescens, apice canotomentosus disperseque glandulosus, phyllopodus v. hypophyllopodus. Folia sat magna sublutescenti-viridia utrimque dense, in margine densius pilosa et glandulis conspicuis dispersis obsita, summa in margine nervoque dorsali subfloccosa: radicalia 0—2 oblongo-lanceolata utrimque attenuata acutiuscula, in petiolum ± brevem late alatum angustata glanduloso-denticulata v. subdentata v. dentibus nonnullis apice glanduliformibus maioribus basin versus munita; caulina ad 7 sensim decrescentia oblongo- v. fere elliptico-lanceolata, inferiora basi angustata latissime alato-subpetiolata, media basi subrotundata sessilia longius acuminata, summa saepe subundulata, in bracteis lineares longe subulatas decrescentia. Inflorescentia laxa paniculata, acladio ad 20 mm longo, ramis primariis 2—4 crassiusculis canotomentosis valde remotis erectis v. arcuato-erectis simpliciter ramosis, capitula 3—7 (—10). Involucrum 12—14 mm longum denique latissime depressum, breviter subvillosum, subobscurum, squamae subangustae obtusiusculae v. acutiusculae v. (interiores) acutae, obscurae sat dense breviterque pilosae, praecipue in margine dense floccosae, disperse minutissimeque glandulosae. Pedunculi canotomentosi, pilis sat densis basi atris glandulisque modice numerosis obsiti. Fores lutei, ligulae apice tantum subgranulatae, stylus obscurus, achaenia brunneo-atra.

Tirolia: In m. Lesacher Wiesenbergr. Kals, loco „Tschamp“ dicto (Huter).

b) Subexpansum Zahn.

Subspecies **subexpansum** Zahn, in Koch Syn. (1901) p. 1855. Caulis ad 30 cm altus subflexuosus gracilis v. crassiusculus sat dense pilosus, usque infra medium subfloccosus subglandulosus, phyllopodus v. hypophyllopodus. Folia magna obscure gramineo-viridia subglaucescentia, utrimque breviter pilosa v. glabrescentia, in margine sparsim glandulosa et densius pilosa, radicalia magna elongata elliptica v. oblongo-lanceolata, in petiolum ± alatum sensim angustata ± acuminata obtusiuscula v. acuta, denticulata v. irregulariter subdentata; caulina ad 5 breviter alato-petiolata v. basi angustata sessilia, summa subtus subfloccosa in bracteis lineari-lanceolatas v. lineares decrescentia. Inflorescentia laxissime paniculata v. altefurcata, acladio 2 cm ad $\frac{1}{4}$ (— $\frac{1}{2}$) totius caulis longo, rami primarii (0—) 1—2 (—4) ex omni ala orti 1—2 cephalii, capitula (1—) 3—5 (—8). Involucrum ad 14 mm longum crasse ovatum, squamae obscurae subangustae acuminatae acutiusculae v. acutae, disperse breviterque pilosae

dense canofloccosae submodice glandulosae. Pedunculi albido-tomentosi modice glandulosi disperse breviterque pilosi. Flores saturate lutei, ligulis apice breviter subciliatis, stylus obscurus, achaenia subatra.

Variat: α) **genuinum** Zahn, squamis canofloccosis, pedunculis albido-canis. — Tirolia: Supra lacum Antholzer See (Huter).

β) **iugigenum** Murr et Zahn, squamis tantum subfloccosis, pedunculis obscure canis. — Tirolia: In m. Arlberg prope iugum (Murr). — Formulae *Bocconei*—*incisum anthyllidifolium* apud Murr, Österr. bot. Zeitschr. (1902) p. 500, respondens.

Tab. 168, fig. B. 3, 4. *H. tephrodermum* Zahn ssp. *subexpansum* β) *iugigenum* M. et Z. (e iugo Arlberg, leg. Murr). 3. Squamae. 4. Pedunculus sub involucrio.

Subspecies **bocconeiforme** Murr et Zahn, in Koch Syn. (1901) p. 1855. Caulis ad 25 cm altus sat dense *floccosus*, superne subglandulosus. Folia rigidiuscula, disperse glandulosa, radicalia magna elongata saturate viridia subglauescentia utrimque breviter pilosa v. in parte aversa et praecipue in nervo dorsali petioloque \pm subvillosa, elliptica v. oblongo-lanceolata, in petiolum sensim attenuata subacuminata obtusiuscula v. acuta, subdentata v. irregulariter grosse dentata, caulina ad 5 late lanceolata alato-subpetiolata v. angustata sessilia. Inflorescentia plerumque altefurcata, acladio ad 5 cm longo, capitula 1—2, involucrium 13—14 mm longum crasse ovatum obscurum, squamae obscurae angustae acuminatae acutiusculae v. acutae, *sat dense sublongeque subvillosae*, *disperse floccosae*, sat dense glandulosae, pedunculi consimiles. Reliqua prioris.

In iugo Arlberg (Murr). Apud Murr l. c. etiam formulae *Bocconei*—*anthyllidifolium* respondens, sed indumento α ssp. *subexpansum* bene diversum, *H. vulgato* magis affine.

Sectio XII. **Amplexicaulia** [Fries, Epicr. (1862) p. 48; Griseb., Comm. p. 23 p. p.; Willk. et Lange, Prodr. fl. Hisp. II p. 256; Burnat et Gremli, Hierac. Alp. mar. 24; Zahn, in Koch Syn. p. 1855, Hier. d. Schw. p. 14 et 404; Stirps *H. pseudocerinthoidea* Fr., Symb. p. 69 p. p.; *Pseudocerinthoidea* Koch Syn. ed. 2 p. p.; Gren. Godr., Fl. Fr. II p. 363 p. p.; *Pseudocerinthoidea Amplexicaulia* A.-T., Essai classific. p. 8; *Balsamea* A.-T., Hier. Alp. fr. p. 49]. — Plantae ubique viscoso-glandulosae, simul saepe pilis sparsis v. subnumerosis simplicibus obtectae. Folia lutescenti-viridia rarius subglauescentia; rosularia basim versus attenuata \pm magna, caulina plerumque \pm amplexicaulia. Caulis plerumque valde ramosus pleio- v. polyccephalus; involucrium sat magnum plerumque pilis simplicibus destitutum; squamae acuminatae. Dentes ligularum ciliatae. Alveoli in margine distincte fibrilloso-ciliati. Rhizoma apice saepe lanato-comosum.

97. Hieracium amplexicaule L., Spec. pl. ed. 2 p. 1129; Willd., Spec. pl. 3 III p. 1582; All., Fl. Pedem., tab. 15 f. 1, tab. 30 f. 2; Vill., Hist. pl. Dauph. III p. 131; DC., Fl. fr. IV p. 51; Froel., in DC. Prodr. VII p. 230 p. p.; Gaud., Fl. Helv. V p. 111 p. p.; Koch, Syn. ed. 2 II p. 526; Fries, Symb. 75, Epicr. p. 49; Reichb., Comp., tab. 139, 140 f. 2; A.-T., Hier. Alp. fr. p. 49; Zahn, in Koch Syn. (1901) p. 1855, Hierac. d. Schw. p. 404.

Pyrenaei, Gallia australis, Alpes usque ad Austriam inferiorem, Istriam, Dalmatiam. Jurassus. Baleares, Corsica, Sardinia, Africa bor.-occid., Italia media. In Germania media et Anglia qsp. — Flor. Iun., Iul.

Dispositio gregum:

a) **Amplexicaule** Zahn, in Koch Syn. p. 1856. Ubique dense glandulosum, epilosum v. basi foliorum

radicalium tantum sparsim mediocriterve pilosum (rarissime folia rosularia etiam in margine pilis nonnullis obsita); folia caulina basi lata v. cordata sessilia amplexicaulia. — Ssp. *amplexicaule* L., *petraeum* Hoppe (= *Berardianum* A.-T.) etc.

- b) *Pulmonarioides* Zahn l. c. p. 1857. Folia omnia in petiolo margineque et in nervo dorsali modice v. \pm dense pilosa, simul \pm dense glandulosa; caulis plerumque \pm pilosus. Folia radicalia saepius distincte petiolata, caulina saepe basi angustata sessilia. Glandulae in superiore plantae parte plerumque \pm obscurae. — Ssp. *speluncarum* A.-T., *pulmonarioides* Vill., *Chenevardianum* Zahn, *pseudoligusticum* Gremli, *cadinense* Evers.

Subspecies **cadinense** Evers, Beitr. Fl. Trentino, in Verhandl. k. k. zool.-bot. Ges. Wien XLVI (1896) p. 81; *H. amplexicaule* \times *glauco* Evers in sched.; *H. ampl.* \times *saxatile* Gelmi, Prospetto Fl. Trident. (1890) p. 105; *H. amplexic.* \times *porrifolium* Murr. Deut. bot. Monatschr. (1887) p. 284; Zahn, in Koch Syn. (1901) p. 1858. Rhizoma crassum obliquum. Caulis 20—50 cm altus subtenuis v. crassiusculus striatus \pm erectus. Folia rosularia ad 12, exteriora parva obovata v. lanceolata cito acuminata obtusa v. acutiuscula, sequentia \pm magna lanceolata ad 25 cm longa acutiuscula, interdum apice plicata et \pm mucronata, longe sensimque in petiolum late alatum basi subvaginantem angustata, irregulariter serrato-dentata v. \pm grosse serrata (sed dentibus minus numerosis quam in *H. amplexicauli*); caulina 3—5 remota sensim in bracteas foliaceas acladii ramorumque decrescentia, inferius lanceolatum longe angustatum semiamplexicaule v. pariter ac sequentia basi \pm ovatum sessile semiamplexicaule, media lanceolata acuminata utrimque 2—3 dentata, summa \pm integerrima; omnia \pm glaucescentia. Inflorescentia \pm indeterminata suprafastigiataque, altefurcata- 2—12-cephala, acladio 3—5 (—7) cm longo, ramis primariis 1—5 remotis saepe ex omni ala ortis, oblique erectis \pm squarrosis 1—2 pliciter ramulosis oligocephalis; interdum caules laterales evoluti. Involucrum 11—13 mm longum globoso-ovatum denique \pm truncatum; squamae e basi latiuscula acuminatae acutae, exteriores subacutiusculae, olivaceo-virides, albido-viridi-marginatae, apice barbatae. Bracteae ad 5 foliolaceae, interdum in squamas \pm transeuntes. Pili in parte aversa foliorum dispersi, in margine petioloque densi, ad 2,5 mm longi, in caule infra medium dispersi, basin versus modice numerosi v. numerosissimi ad 4 mm longi. Glandulae superne numerosissimae, in foliis utrimque numerosae, in parte superiore interdum valde deminutae v. subnullae. Flocci in squamarum marginibus et in pedunculis densi, in caule deminuti, saepe usque ad basin descendentes. Flores dilute aureo-lutei, dentibus ciliatis, stylis luteis, achaeniis brunnescentibus; alveoli in margine fibrilloso- et subglanduloso-ciliati.

Tirolia austr.: In m. Perlag, pr. Cadine, in m. Buco di Vela pr. Trient (Val de Lievre, Evers, Murr), alla Scala 260 m, Roncafort 200 m (Sardagna), S. Michèle et Cadino pr. Salurn (Murr, Vulpus), Eppan (Heuffer); Italia: in valle Brentino ad m. Baldo (Rigo); Carinthia: ad rupes pr. Federaim (de Benz).

Exsiccata: Dörfler, Herb. norm. 3961; Zahn, Hieraciotheca Europ. 66.

Tab. 169. *H. amplexicaule* L. ssp. *cadinense* Evers (Buco di Vela, leg. Murr). 1. Squama. 2. Pedunculus sub involucro. 3. Foliorum margo.

Subspecies **pseudoligusticum** Gremli, Exkurs.-Fl. d. Schw.; Zahn, Hierac. d. Schw. (1906) p. 411; *H. amplexicaule* v. *aureum* Gaud., Fl. Helv. V p. 112; *H. ligusticum* Fries, Symb. p. 74 p. p., Epicr. p. 48; Lager in sched.; *H. Chenevardianum*, *spelaeum* et *ligusticum* A.-T. in sched. p. p.; *H. pulmonarioides* β *trichocalathium* Zahn, in Koch Syn. (1901) p. 1857. Subspeciei *pulmonarioides* Vill. valde simile, sed differt pilis in tota planta numerosioribus,

praecipue in caulis basi et petiolis foliorum densioribus longioribusque, albis; *involucris* dense floccosis *semper pilis nonnullis v. dispersis obsitis*. Caules et folia caulina pilosa.

Helvetia austro-occid.: St.-Maurice, Salvan (Muret), Gueuroz (Favre), Sembrancher (Delasoie), Liddes (Wolf), Bg-St.-Pierre (Favre), Mont Chemin sur Vollège (Besse), Granges-Neuves, Lourtier, Lavanchet (Thomas, Favre, Wolf), Fionney, Mauvoisin (Rikli, Binz), Saxon (Besse), Isérables, Approz (Wolf), Riddes (Besse); Bévieux, Morcles (Muret), Tourbillon de Sion (Wolf). — Flora Valdostana: Etrouble—Gignod (Favre). — Tirolia australis: Val Bono (Porta).

Tab. 170. *H. amplexicaule* L. ssp. *pseudoligusticum* Gremli (Lavanchet supra Lourtier, leg. Favre). 1. Apex ligularum. 2. Squama. 3. Pedunculus sub involucrio. 4. Foliorum margo.

Species intermediae:

98. Hieracium Bicknellianum Arv.-Touv. et Belli, in herb. Bicknelliano = **amplexicaule—Lawsonii** Zahn.

Rhizoma crassum eriopodum. Caulis ad 35—40 cm altus gracilis erectus substrictus substriatus phyllopodus. Folia rosularia numerosa submagna, exteriora minora saepe emarceida (rhizoma infra folia vaginis veteribus foliorum destructorum obtectum), elliptico-vel oblongo-lanceolata, breviter acuminata acutiuscula v. acuta, basin versus longius sensim in petiolum late alatum angustata v. attenuata sessilia, fere integerrima vel denticulata subglaucescenti-viridia, utrimque et praecipue in parte aversa pilis distincte denticulatis sublongis subcrispis ± dense obtecta, in nervo dorsali petioloque praecipue basin versus pilis longioribus sat dense pellita, *praeterea in margine nervoque dorsali glandulis dispersis minutis munita*; caulina (0—) 2 (—3) cito decrescentia sat parva, inferius profunde insertum, radicalibus simile, basi angustata sessile v. subamplexicaule, summum ± lanceolatum v. bracteiforme. Inflorescentia furcato-oligocephala (2—) 3—5 (—12) cephalis, acladio ad 5 cm longo, ramis primariis (1—) 2—3 (—4) valde remotis arcuato-ascendentibus, inferiore interdum ex rosula orto, ordines axium 2—3. Involucrium 12 mm longum crasse ovatum denique ventricatum basi truncatum; squamae e basi latiuscula longe acuminatae acutae, apice barbatae, obscurae, (praecipue interiores) dilute marginatae, sat dense sublongeque pilosae subeffloccosae disperse glandulosae. Pedunculi dense floccosi modice pilosi ± dense glandulosi; caulis modice, inferne densius pilosus, subglandulosus, superne subfloccosus. Flores saturate lutei, extus subpilosi, dentibus distincte ciliatis, stylis luteis; achaemia bruneo-atra, 3,5 mm longa. — Flor. Iul., Aug.

H. Lawsonii Vill. propius quam *H. amplexicauli*; ab *H. Lawsonii* praecipue foliis disperse glandulosis differt.

Italia borealis. Liguria: „Pietra vecchia“ in Valle „Nervia“ ad meridiem iugo „Col di Tenda“ (Bicknell, Biancheri).

Tab. 171. *H. Bicknellianum* A.-T. et Belli (e loco class., leg. Biancheri). 1. Apex ligularum. 2. Squama. 3. Pedunculus sub involucrio. 4. Foliorum margo. 5. Pilus e margine foliorum.

99. Hieracium pedemontanum Burnat et Gremli, Cat. Hierac. Alp. Marit. (1883) p. 27; Arv.-Touv., Hier. Alp. franç. (1888) p. 48; *H. Valbonnense* A.-T., Notes (1883) p. 18; = **amplexicaule** > **lanatum**.

Caulis 15—30 cm altus sat dense pilosus, superne subfloccosus, usque ad basin subglandulosus, basi eriopodus, phyllopodus. Folia canescenti-viridia, interdum subglaucescentia, radicalia compluria, sat magna, ovato-lanceolata, dentata v. \pm grosse dentata, acutiuscula vel acuta, basin versus longius attenuata late alato-petiolata, utrinque sat dense pilosa et subglandulosa, pilis patentibus mollibus subplumosis albidis, in margine nervoque dorsali basin versus densioribus; caulina 3 (—4) plerumque subcito decrescentia, inferiora radicalibus similia v. diminuta sessilia basi saepe subsemialexicaulia. Inflorescentia altefurcata saepe valde indeterminata, acladio ad 6 cm longo, ramis primariis 1—4 saepe ex omni ala ortis 1—3 cephalis paulum suprafastigiatis oblique erectis saepe subflexuosis subsquarrosis, ordines axium 2—3, capitula (1—) 2—5 (—12), interdum caules 1—2 laterales evoluti sunt. Involucrum (10—) 11—13 mm longum obscurum, squamae e basi sublatiuscula attenuata acuta, apice barbulata, sat dense glandulosa, disperse sat longeque pilosa, basin versus disperse floccosa. Pedunculi dense floccosi glandulosique subepilosi vel subpilosi, rami consimiles, subpilosi, longiores saepe foliis parvis muniti. Bracteae c. 3, subfoliolaceae parvae. Flores lutei, ligulae apice ciliatae, stylus luteus achaenia atrobrunnea. Alveoli in margine saepe parum fibrilloso-ciliati. — Flor. Iulio, Aug.

Habitu *H. pulmonarioidis* Vill. v. *H. petraei* Hoppe, sed differt foliis subcrassioribus subglaucescentibus v. canescentibus, pilis albidis manifeste denticulatis v. subplumosis obsitis, minus dense glandulosus, involucris praeter glandulas pilis longis simplicibus obsitis. Ergo *H. pedemontanum* Burnat et Gremli primum transitum inter *H. amplexicaule* L. et *H. lanatum* Vill. esse ad interim opinionem habeo. Huc pertinet etiam *H. plumiferum* N. P. II p. 322.

Hab. in Alpibus Maritimis Italiae: Col di Tenda: la Briga, S. Dalmas, V. Casterino, V. Nervia, Pietra Vecchia (Burnat, Bicknell, Boissier), Pic d'Ormea, inter Ponia rocca et Mendatica, Carnino; S. Martin-Lantosque, V. Libaré, Madone de Fenestre (Burnat). Gallia: Col Lacroix, Château-Queyras, le Valbonnais au Désert (Arvet-Touvet).

Tab. 172. *H. pedemontanum* Burnat et Gremli (Pietra Vecchia in v. Nervia, leg. Biancheri). 1. Apex ligularum. 2. Squama. 3. Pedunculus sub involucro. 4. Foliorum margo.

100. Hieracium urticaceum Arv.-Touv. et Ravaud, in Arv.-T., Suppl. à Monogr. (1866) p. 10; A.-T. Hier. Alp. franç. (1888) p. 47; Zahn, in Koch Syn. (1901) p. 1860; Hier. d. Schw. (1906) p. 415; *H. Reichenbachii* Verlot, Cat. gr. jard. Grenoble (1879) p. 11, ex Urban, Enum. (1881) p. 34; *H. ligusticum* Reut., Cat. (1861) p. 132 et in sched., Reichb. fil., Comp. tab. 142; *H. amplexicaule* β) minus p. p. Gaud. herb.!: *H. amplexicaule* v. *opimum* Fries, Epicr. p. 50; Christener, Hier. d. Schw. p. 7; *H. humile* \times *amplexicaule* A.-T. l. c.; = **amplexicaule—humile**.

Subspecies **Bertschianum** Zahn. Caulis ad 40 cm altus subtenuis subpilosus subglandulosus, superne subfloccosus, basin versus violaceus. Folia viridia subtenuia, radicalia sat magna obovata v. obovato-lanceolata longe petiolata obtusiuscula v. brevissime acuta, basin versus cito v. longius attenuata, in margine supra medium denticulata v. integerrima, infra medium dentata v. inciso-dentata, dentibus lanceolatis acutissimis saepe in petiolum descendentibus, exteriora saepe ovata latius dentata, omnia breviter subpilosa, in margine petioloque densius pilosa et subglandulosa; caulina 3 (—4) remota subcito decrescentia, basi angustata, grosse dentata, sessilia, v. paulum angustata subamplexicaulia, summum parvum. Inflorescentia alte furcata saepe valde indeterminata, suprafastigiata, acladio ad 6 cm longo, ramis primariis 2 (—4) valde remotis 1—3 cephalis oblique erectis subsquarrosis, capitula 3—6 (—12). Involucrum ad 12.5 mm longum denique depressum ventricosum-ovatum, squamae e

basi latiuscula acuminatae acutae apice subbarbulatae obscurae viridi-submarginatae, disperse floccosae pilosaeque, sat dense glandulosae. Pedunculi dense floccosi glandulosique, disperse pilosi, 2—3 bracteis parvis obsiti. Flores lutei apice subciliati, stylus luteus, achaenia atrobrunnea. — Flor. Iun., Iul.

Hab. in Alpibus Gallicis: Chaîne de Ratz: Montagne du Grand-Bois (leg. C. Bertsch).

Habitu *H. humili* satis affine, sed differt ligulis subciliatis, squamis subfloccosis, pedunculis dense floccosis etc.

Tab. 173. *H. urticaceum* A.-T. ssp. *Bertschianum* Zahn (e loco classico, leg. Bertsch).

1. Squama. 2. Pedunculus sub involucri. 3. Foliorum margo.

Sectio XIII. **Intybacea** [Koch Syn. ed. 2 p. 527; Arv.-T., Essai classific. p. 13; Burnat et Gremli, Hier. Alp. marit. p. 22; Zahn, in Koch Syn. (1901) p. 1861; Stirps *H. intybacei* s. *albid* Fr., Symb. p. 155, Epicr. p. 138; *Pseudostenotheca* Fr., Epicr. p. 138 p. p.; *Albida* A.-T., Hier. Alp. franç. p. 111; Genus *Schlagintweitia* Griseb., Comm. p. 76]. — Tota planta glandulis densissimis longis viscosis obsita, pilosa. Caulis aphyllopodus, plurifolius, ± crassiusculus, humilis, foliis elongatis ± angustis basi angustatis obsitus. Capitula pauca, magna, squamis exterioribus laxissimis saepe foliolaceis, interioribus obtusis. Ligulae luteo-albidae, dentibus glabris.

Huc pertinet species unica **H. intybaceum** (Wulf.) Jacq. (*H. albidum* Vill.) — Aug.

Hab. in Pyrenaeis, in Pedemontio, Delphinatu, Sabaudia, Helvetia, in Vogesis, in Bavaria, Vorarlbergia, Tirolia, Salisburgia, Carinthia, Stiria, inter 15—2600 m.

Species intermediae:

101. Hieracium Khekianum Zahn, in Schinz et Kell., Fl. d. Schw. ed. 2 II (1904) p. 319; Hierac. d. Schw. (1906) p. 418; = **intybaceum—alpinum** Zahn l. c. Habitu *H. Halleri* Vill., sed tota planta densissime glandulosa fere pilosa. Caulis gracilis, 10—20 cm altus, densissime glandulosus, superne subfloccosus, hypophyllopodus. Folia caulina inferiora dense conferta, subnumerosa, canescenti-v. lutescenti-viridia, lanceolata v. lanceolato-spathulata, obtusiuscula v. acuta, irregulariter dentata, sensim in basin late alatum subpetioliformem angustata, densissime glandulosa vel in margine basin versus tantum pilis brevibus valde solitariis obsita, caulina superiora 2—3 remota. Inflorescentia monocephala v. ± profunde furcata 2-cephala. Involucrum oblongum ventricosoglobosum, ad 15 mm longum, squamis latiusculis acuminatis obtusiusculis v. acutiusculis, exterioribus interdum viridibus (more *H. intybacei*), in bracteis foliolaceas transeuntibus, omnibus densissime glandulosis subeffloccosis. Pedunculi obscure cani, dense glandulosi. Flores albo-lutei, ligulae apice haud ciliatae, stylus initio subluteus, achaenia brunneo-atra. — Flor. Aug.

Variat: α) **genuinum** Z., ut supra. — Helvetia: In iugo Simplon 2000 m (Besse).

β) **substylosum** Z., squamis saepissime pilis solitariis obsitis, ligulis tubulosis subabbreviatis, dentibus breviter subciliatis, stylis subexsertis. — Stiria superior: In m. Frauenalpe pr. Murau (leg. B. Fest).

Tab. 174, Fig. A. 1, 2. **H. Khekianum** Zahn β) **substylosum** Z. (e m. Frauenalpe, leg. Fest). 1. Flos. 2. Squama.

102. Hieracium adenodermum Zahn, in Koch Syn. (1901) p. 1862; in Schinz et Kell., Fl. d. Schw. ed. 2 II (1905) p. 319; Hierac. d. Schw. (1906) p. 418; = **intybaceum—alpinum—**

silvaticum Zahn l. c. Habitu *H. rhaetici* Fr. Caulis c. 25 cm altus erectus subtenuis striatus hypophyllopodus, inferne violaceus. Folia radicalia florendi tempore emarcida, caulina ad 10 sensim decrescentia, inferiora appropinquata, basi violacea angustata subpetiolata lanceolata breviter acuminata acuta, sequentia basi paulum angustata v. aequilata sessilia, acuta, omnia inaequaliter serrato-dentata, dentibus apice glanduliformibus, \pm lutescenti-viridia, submolli, utrinque et praecipue in margine densissime glandulosa, in margine nervoque dorsali saepe subviolaceo tantum pilis dispersis obsita, superiora remota pariter ac reliquae plantae partes pilosa (sed dense glandulosa). Inflorescentia \pm indeterminata, furcato- 2—3 (—4) cephalis, suprafastigiata, acladio 4—5 cm longo, ramis 1—2 (—3) monocephalis erectis. Involucrum c. 13 mm longum, crasse v. cylindrico-ovatum, squamis e basi latiuscula acuminatis obtusiusculis v. (interioribus) acutis apice barbularis, obscuris, disperse floccosis, densissime longeque glandulosus, interioribus late viridi-marginatis. Pedunculi cani, caulis usque infra medium subfloccosus, caulomata ubique densissime longeque glandulosa. Flores dilute lutei \pm tubulosi, stylus obscurus, ligulae apice sparsim ciliatae v. glabrae, achaenia brunneo-atra. — Flor. Aug.

Helvetia orientalis: In valle Sertig pr. Davos, inter „Saud“ et „Hinter den Ecken“, in declivitatibus saxosis occidentalibus legi.

Tab. 174, Fig. B. 3, 4. *H. adenodermum* Zahn (e loc. class.). 3. Squama. 4. Pedunculus sub involucrio.

2 naturwissenschaftliche Novitäten

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Sectio XIV: Prenanthoidea

Sectio XIV. **Prenanthoidea** [Fr., Epicr. 7 et 118; Koch, Syn. ed. 2 p. 528; Arv.-T., Monogr. p. 44; Zahn, in Koch Syn. (1901) p. 1862; Hierac. d. Schw. (1906) p. 15 et 419; *Prenanthoidea Genuina* et *Lanceolata* Arv.-T., Essai classif. 11, 12; *Prenanthea* Arv.-T., Hierac. Alp. franç. p. 193. — Plantae elatae in partibus superioribus (praecipue in pedunculis) dense glandulosae, aphyllopodae. Folia caulina numerosa, eglandulosa (rarius in margine glandulis solitariis inconspicuis obsita), ima basin versus angustata, media basi lata sessilia v. \pm amplexicaulia, basin versus saepe \pm panduriformia, omnia in parte aversa reticulato-venosa. Capitula parva v. mediocriter magna, saepe numerosa. Squamae distincte multiseriales et regulariter imbricatae, interiores obtusae. Ligulae apice \pm ciliatae. Achaenia dilute v. rubro-brunnea.

103. Hieracium prenanthoides Vill., Prosp. (1779) p. 35; Fl. Delph. (1785) p. 85; Hirt. pl. Dauph. III (1789) p. 108; Voyage (1812) p. 58, tab. 3 fig. 3. — In Pyrenaeis, Arverni montibus, in m. Jurasso, in Vogesis, in Silva Nigra, per totum Alpium tractum, in Sudetis, Carpathis, in montibus Balcanicis, in Aprutiis, in Caucaso, Rossia, Scandinavia, Scotia. — Iul., Aug.

Dispositio gregum:

- * Squamae minus latae obtusaeque, omnes usque ad apicem glandulosae.
- a. *Prenanthoides* Zahn, in Schinz et Kell., Fl. d. Schw. ed. 2 II (1905) p. 320. Folia \pm integerrima, plerumque \pm mollia, late ovato-oblonga, basi profunde cordata amplexicaulia. Inflorescentia \pm squarrosa ramosissima indeterminata, pariter ac involucri cylindrico-ovatum glandulis subtenuibus dilutis densissimis obsita, epilosa. Achaenia straminea. — Huc pertinent *H. prenanthoides* Vill. sensu strenuo et *H. Jaquetianum* Zahn.
- b. *Bupleurifolium* Zahn l. c. Folia subintegerrima v. denticulata saepe \pm rigidiuscula, haud raro \pm panduriformia basi profunde cordata auriculata amplexicaulia. Inflorescentia minus ramosa indeterminataque, capitulis minus numerosis maioribus. Involucra, pedunculi et rami glandulis densis sat longis obscuris simul saepe pilis solitariis v. in ramis pedunculisque sub-numerosioribus obsita. Squamae subangustae. Achaenia dilute v. saepe \pm rubro-brunnea. — Huc pertinent p. e. *H. perfoliatum* Froel. et *H. bupleurifolium* Tsch.

- ** Squamae \pm latae subatrae, interiores obtusissimae, in margine apiceque \pm glandulosae.
- c. *Lanceolatum* (Vill.) Z. l. c. Folia plerumque \pm rigida, media ovato- v. oblongo-lanceolata v. lanceolata v. angustiora, basi aequilata \pm amplexicaulia v. parum auriculata, haud v. indistincte panduriformia, denticulata v. dentata v. serrato-dentata, subtus minus reticulato-venosa. Caulis plerumque crassiusculus rigidusque. Squamae plerumque modice tantum glandulosae et disperse obscureque pilosae. Caulomata consimilia. Ligulae apice parum ciliatae \pm vel glabrae. Achaenia denique brunneo-atra. — Huc pertinent p. e. *H. lanceolatum* Vill. (sensu strenuo, *H. strictissimum* Froel., *H. melanotrichum* Reuter, *H. praeruptorum* Gren. Godr., *H. Spennerianum* Zahn, *H. pseudoleiopsis* M. et Z., *H. Fieckii* Uechtr. etc.

a. *Prenanthoides* Z.

Subspecies **Jaquetianum** Zahn, in Koch Syn. (1901) p. 1894 et in Schinz et Kell. Fl. d. Schw. ed. 2 II (1905) p. 320; Hierac. d. Schw. (1906) p. 421. Caulis ad 80 cm altus saepe \pm crassiusculus, in summa tertia parte dense glandulosus epilosusque. Folia caulina ad 15 v. compluria, sat magna, ovato- v. elliptico-lanceolata, inferiora saepe subpanduriformia, media superioraque profunde cordata amplexicaulia, auriculis inter se contingentibus, late ovata, omnia acuminata mollia denticulata, utrimque disperse modiceve, in margine dense pilosa (1 mm), summa glandulis valde solitariis obsita. Inflorescentia valde squarrosa, saepe ad $\frac{1}{2}$ totius caulis descendens, ramis arcuato- v. subhorizontaliter patentibus basi tantum sparsim pilosis densissime lutescenti-glandulosis. Acladium ad 20 mm longum, capitula pauca v. numerosissima, involucrium 8—10 mm longum, squamae subangustae, obscure canae albido-viridi-marginatae, modice floccosae epilossae densissime glandulosae, pedunculi consimiles, cani.

Habitu inflorescentiae *H. ramosissimo* Schl. haud dissimile.

Helvetia. Valesia: Pacoteires 2000 m, Ecône (Besse), inter Grengiols et Binn (Jaquet). Hochmatten pr. Binn (Chenevard), Kalpetran (Muret), in valle St. Nikolaus (Favrat), Chemin neuf supra Conthey (Wolf), in valle Triqueut supra Ardon 1100 m (Zahn); Klusalpe pr. Reidenbach in valle Simmental (Maurer). — Epinel in valle Cogne Florae Valdostanae (Wolf).

Tab. 175. *H. prenanthoides* Vill. ssp. *Jaquetianum* Zahn (pr. sacellum „Auf dem Platt“ inter Grengiols et Binn, leg. Jaquet). 1. Squama. 2. Pedunculus sub involucrio. 3. Foliorum margo.

c. *Lanceolatum* (Vill.) Z.

Subspecies **bupleurifolioides** Zahn, Hierac. d. Schw. (1906) p. 424; *H. lanceolatum* a) *multiglandulum* Zahn, in Syn. (1901) p. 1864. Caulis superne modice pilosus, pilis basi obscuris. Folia ut in *H. bupleurifolio* Tausch, \pm ovato-lanceolata, basi profunde cordata, 2—3 longa quam lata, sed fere semper dentibus numerosis minoribus maioribusve munita, supra rigidiuscule subpilosa, media inferioraque basin versus distincte angustata. Involucrium minus quam in *H. lanceolato* typico, 9—10 mm longum, squamae subangustiores, interiores minus obtusae, sparsim modiceve floccosae, obscurae, pariter ac pedunculi \pm obscure cani dense glandulosi et plerumque pilis obscuris solitariis munitae.

- Variat: 1) fuscum Zahn l. c. Squamae subatrae, pili in superiore plantae parte basi atrii. — Helvetia: in iugo Oberalp (Bruegger), Tschams in v. Samnaun (Kaeser); in m. Vogesis, in m. Feldberg *Silvae Nigrae* (Zahn); Vorarlbergia: Supra Stuben ad viam versus Lech (Zahn) et pr. Rauz (Murr).
2) subcinereum Z. l. c. Squamis modice floccosis, pilis dilutioribus basi tantum obscuris. — Helvetia: Pacoteires supra Alesse (Besse) Valesiae; in iugo Bonaudon pr. Rochers-de-Naye (Lagger).
3) subepilosum Z. Involucrium et pedunculi plerumque epilosa dense glandulosa. *H. bupleurifolio* Tsch. proximum, sed squamis obscuris latioribus obtusis more *H. lanceolati* differt. — Helvetia: Oussannaz (Jaquet), Petit Mont, Bonaudon (Muret); in alpihus supra Bex (Muret); la Forclaz in valle d'Hérens (Wilczek); pr. Grindelwald (Christener).

Tab. 176. *H. prenanthoides* Vill. ssp. *bupleurifolioides* Zahn 1) *fuscum* Z. (e m. Arlberg,

leg. J. Murr). 1. Apex ligularum. 2. Squama exterior. 3. Squama interior. 4. Pedunculus sub involucrio.

Subspecies **pseudoleiopsis** Murr, Österr. bot. Zeitschr. (1903) p. 423. Caulis rigidus inferne subpilosus, superne squaroso-ramosus. Folia caulina 8—15 sensim decrescentia, argute denticulata v. breviter serrato-dentata, papyracea v. subcoriacea, dilute viridia, supra glabra sublucida, subtus et in margine disperse breviterque pilosa, inferiora oblongo-lanceolata, in petiolum late alatum cito sensimve attenuata, media saepe ovato-lanceolata basin versus angustata sessilia ± amplexicaulia, summa basi late ovata semiamplexicaulia, omnia ± acuta. Capitula numerosa late cylindrico-ovata, squamis subatris obtusiusculis obscure viridi-marginatis, plerumque subfloccosis, subglandulosis, pilis obscuris solitariis obsitis. Pedunculi cani subglandulosi disperse pilosi. Flores saturate lutei, ligulae apice vix ciliatae, achaenia brunneo-atra.

Tirolia australis: In iugo Jaufen pr. Sterzing (leg. J. Murr).

Tab. 177. *H. prenanthoides* Vill. ssp. *pseudoleiopsis* Murr (e iugo Jaufen). 1. Squama. 2. Pedunculus sub involucrio.

Subspecies **Fiekii** Uechtr., in Fiek, Fl. Schles. (1881) p. 280; *H. salicifolium* Uechtr., in Jahresber. Schles. Ges. vaterl. Kultur. (1874), nec Lindebg.; *H. striatum* var. *Fiekii* Arv.-T. in sched. Caulis (30—) 40—50 (—75) cm altus strictus rigidus crassiusculus cavus subtiliter striatus, inferne saepe rubro-coloratus, usque ad apicem dense foliatus, (1—) 4—8 (—20) cephalus, superne disperse glandulosus floccosusque, deorsum glabratus. Folia plerumque rigida, in parte superiore dilute viridia sublucida subglauescentia, subtus pallidiora, plerumque distincte sed late reticulato-venosa, utrinque glabra v. interdum sparsim pilosa, in margine tantum sparsim breviterque, raro densius ciliata, vel summa omnino glabra. Folia caulina infima ± emarcida, late oblongo-lanceolata, in petiolum brevem late alatum basi parum amplexicaulem angustata, obtusiuscula; sequentia elliptico- v. ovato-lanceolata basi truncata v. cordata ± auriculataque, ± amplexicaulia, acutiuscula, media elliptico- v. late lanceolata, medio latissima, basi cordata auriculata semiamplexicaulia, acuta, summa ovato-lanceolata ± longe v. breviter acuminata acuta, basi truncata semiamplexicaulia; rarius media late elliptica magisque auriculata, omnia folia caulina remote denticulata, rarius dentata v. integerrima, summa tantum interdum profundius dentata. Inflorescentia ± determinata, rarius racemoso-paniculata, acladio plerumque brevissimo, ramis paucis subremotis 1-oligo-cephalis. Involucrum (10—) 11 (—12) mm longum late cylindrico-ovatum basi rotundatum, dense glandulosum, epilosum, sparsim, basi modice floccosum. Squamae sublatiusculae obtusiusculae atrovirides, exteriores immarginatae, mediae dilutius submarginatae, intimae sordide pallideque virides v. dorso obscuriores. Pedunculi sat dense subtenuiterque glandulosi, superne dense, deorsum deminute floccosi. Ligulae apice glabrae. Flores subaurei. Stylus obscurus.

Subspecies in Sudetis endema, 1250—1300 m: Kl. Schnee-grube haud raro, Melzer-grube, Teufelsgärtchen, Kiesberg (Fiek, Uechtritz, Pax, Wetschky).

Variat: 1) normale Z., capitulis pedunculisque tantum glandulosis.

2) sparsifolium Z., capitulis pedunculisque pilis solitariis obscuris obsitis.

Tab. 178. *H. prenanthoides* Vill. ssp. *Fiekii* Uechtr. (Kleine Schnee-grube, leg. Hirte). 1. Apex ligularum. 2. Squama. 3. Pedunculus sub involucrio. 4. Foliorum margo.

Species intermediae:

104. Hieracium falcatum Arv.-Touv., Monogr. (1873) p. 22; Hier. Alp. franç. (1888) p. 19; *H. bupleuroides* B. *H. falcatum* A.-T. l. c.; *H. penninum* A.-T., Hier. Alp. fr. l. c., nec N. P. = **prenanthoides—bupleuroides** N. P., Monogr. II (1886) p. 71.

Subspecies **falcatum** (A.-T.) Z. Caulis 20—60 cm altus gracilis rigidiusculus striatus hypophyllopodus, apice, rarius usque infra medium ramosus. Folia caulina 6—10, ima oblongo-lanceolata v. lanceolata, media summaque e basi ovata sensim longeque acuminata, acuta, omnia sensim decrescentia rigida glauca integerrima v. obsolete denticulata. Inflorescentia laxissime paniculata saepe indeterminata, acladio 2—5 cm longo, ramis (0—) 1—3 (—5) oblique erectis monocephalis v. rarius simpliciter ramulosis, capitulis (1—) 2—5 (—7). Involucrum 10—12 mm longum ovatum, squamis latiusculis obtusis v. acutis, distincte imbricatis, obscuris, late viridi-marginatis, adpressis v. extimis sublaxis. Bractee 2—3, infimae interdum subfoliolaceae. Pili involucri sparsi v. modice numerosi basi obscuri, in caulomatibus nulli, in foliorum nervo dorsali et interdum etiam in margine foliorum inferiorum basin versus solitarii v. dispersi 2 mm longi. Glandulae in involucri solitariae v. dispersae, in pedunculis nullae v. apice tantum solitariae. Flocci involucri submediocriter numerosi, petioli superne albidocani, deorsum cito deminute floccosi, caulomata cito effloccosa. Flores lutei, ligulae glabrae v. subciliatae, stylus obscurus, achaenia brunnea. — Aug.

Habitu *H. bupleuroidis* Gmel. Ab hac specie habet capitula, colorem foliorum et pilos ubique valde deminutos, ab *H. prenanthoidis* glandulositatem involucri, foliorum figuram et basin, praetera caulem hypophyllopodum.

Delphinatus: Lautaret, Galibier 2000 m, haud infrequens; Sabaudia 18—2000 m: Pointe de Marcelly et de Chalune, Crête de Roy (Briquet); ad meridiem iugi Col de Vernaz 15—1900 m, inter lacum d'Ervin et m. Billiat 18—1900 m (Briquet).

Exsiccata: Zahn, Hieraciotheca Europaea 184 a, 184 b, 282 (f. *angustifolium* A.-T.).

Tab. 179. *H. falcatum* A.-T. ssp. *falcatum* (A.-T.) Z. (e iugo Lautaret, leg. A. Faure). 1. Squama. 2. Pedunculus sub involucri.

Huc pertinet cum subspecie **H. glaucoides** Muellner, in G. Beck, Fl. Hernstein (1884 p. 447, tab. VIII fig. 2 b, e loco „Heuplagge“ 1600 m m. Schneeberg Austriae inf. (det. Muellner, 8. VIII. 1881)!

Alia species inter *H. prenanthoides* et *H. bupleuroides* intermedia, sed priori magis affinis, est **H. orthophyllum** G. Beck, Fl. Hernstein p. 448, tab. V fig. 1; Fl. N.-Österr. p. 1304; Zahn, in Koch Syn. (1901) p. 1865, e vallecula „Saugraben“ m. Schneeberg, 1500 m (det. 3. IX. 1882 G. Beck).

H. glaucocephalum N. P. II p. 78 = *prenanthoides—glaucum* N. P., in Pedemontio: pr. Oulx 1900 m, a cl. Naegeli inventum est.

105. Hieracium valdepilosum Vill., Hist. pl. Dauph. III (1789) p. 106, tab. 30; Gaud., Fl. Helv. V p. 98; Gaud.-Momm., Syn. fl. Helv. (1836) p. 684; A.-T., Mon. (1873) p. 41, 42 p. p; Reichb., Ic. XIX tab. 154 f. 1; Fries, Symb. p. 60, Epier. p. 60; Griseb., Comm. p. 36; Arv.-T., Hier. Alp. franç. p. 101; Zahn, in Koch Syn. (1901) p. 1867; Hier. d. Schw. (1906) p. 430; *H. elongatum* Willd., apud Froel., in DC., Prodr. VII (1838) p. 229; N. P. II p. 209; A.-T., Hier. Alp. franç. p. 28; nec Lapeyr., Hist. pl. Pyr. (1813) p. 476; *H. villosum* β *multiflorum* Tausch, in Flora (1828), Erg.-Bl. I p. 77; *H. villosum* v. *elongatum* Fr., Epier. p. 64; Gren.,

in Gr. Godr., Fl. Fr. II p. 358: *H. villosum* v. *semiglabratum* Fr., Symb. p. 51: = **prenanthoides** — **villosum** F. Schultz, Arch. (1854) p. 162; N. P. II p. 209.

Delphinatus, Pedemontium, Jurassus, Alpes usque ad Vindobonam et Goritiam, Aprutii; Bosnia; Sudeti. — Iul., Aug.

Dispositio gregum:

1. Pedunculi disperse glandulosi, caulis plerumque plus 7 foliatus, pleiocephalus.

2. Caulis elatus gracilis v. crassiusculus, ramis ad 5 (—7) remotis. Habitu *H. prenanthoidi* magis simile.

a. Valdepilosum (Vill.) Z., Hier. d. Schw. p. 431. — Ssp. *valdepilosum*, *Grabowskianum* etc.

2* Caulis minus elatus, ramis minus numerosis. Habitu inter *prenanthoides* et *villosum* quasi intermedium.

b. Elongatum N. P. — Ssp. *elongatum*, *glabrescens* etc.

1* Pedunculi eglandulosi, caulis pleio- v. oligophyllus, plerumque oligocephalus.

3. Folia caulina pauca, media amplexicaulia v. late sessilia, caulis plerumque phyllopodus.

c. Oligophyllum N. P. — Ssp. *oligophyllum* etc.

3* Folia caulina media basi angustata, caulis dense foliatus, hypophyllopodus.

d. Christeneri N. P. — Ssp. *Christeneri*.

a. Valdepilosum (Vill.) Z.

Subspecies **Grabowskianum** N. P. II p. 207; *H. villosum* β) *intermedium* Grab., Fl. v. Oberschlesien p. 229; *H. villosum* β) *dentatum* Wimm., Fl. Schles. (1847) p. 305; *H. villosum* \times *prenanthoides* Uechtr., Österr. bot. Zeitschr. (1862) p. 86; Fiek, Fl. Schles. (1881) p. 280; Neilr., Krit. Zus. Hierac. (1871) p. 38. Caulis 15—35 cm altus rigidus, hypo- v. aphyllopodus. Folia rosularia 0 (—2), caulina 7—12 valde sensim decrescentia \pm oblongo-lanceolata, inferiora basin versus angustata, sequentia basi aequilata v. \pm panduriformia, media summaque basi lata rotundata v. cordata sessilia, omnia denticulata v. subsinuato-serratodentata. Capitula 1—5 (—10), acladium 10—15 mm, ordines axium 0—3, rami 1—3 (—5). Involucrum 13—15 mm longum, squamis conformibus, latiusculis, acutis, nigris dilute submarginatis, extimis tantum \pm laxis, minute subglandulosis, in margine disperse floccosis. Tota planta modice pilosa, caulis superne tomentosus, usque ad medium floccosus. Flores lutei, ligulae apice breviter ciliatae, stylus obscurus, achaenia brunnea.

Variat: 1) normale N. P. II p. 208. — Sudeti: In rupestribus faucis „Grosser Kessel“ 1430—1460 m in montibus „Mährisches Gesenke“ (Grabowski, Uechtritz, Oborny!).

2) longipilum N. P. I. c. Folia in parte superiore densius longiusque pilosa. — Tatra: Drechselhäuschen (Haussknecht).

Tab. 180. *H. valdepilosum* Vill. ssp. *Grabowskianum* N. P. 1) normale N. P. (e loc. class., leg. Oborny). 1. Apex ligularum. 2. Squama. 3. Pedunculus sub involucre. 4. Caulis portio.

H. Grabowskianum a cl. Naegeli-Peter propriam speciem inter *prenanthoides* et *villosum* hybridam esse declaratum est, sed omnibus characteribus subspeciebus *H. valdepilosi* (= *prenanthoides*—*villosum*) ita simile est, ut *H. Grabowskianum* huic speciei intermediae adscribere malim.

Subspecies **valdepilosum** Vill., Hist. pl. Dauph. III (1789) p. 106, tab. 30. Caulis ad 50 cm altus, gracilis v. crassiusculus, saepe \pm flexuosus, aphyllopodus. Folia caulina florendi tempore ad 12, inferiora oblonga, longe in basin attenuata, sed plerumque haud distincte petiolata, acuta, sequentia oblonga, sessilia v. subamplexicaulia, media summaque ovata basi

lata sessilia v. \pm amplexicaulia, omnia acuta fere integerrima v. denticulata v. breviter remote-
que serrato-dentata, viridia, mollia. Acladium 2—3 cm longum, rami 2—5 remoti graciles,
rarius ramulosi, capitula ad 8. Involucrum 13—14 mm longum semiglobosum, squamis
latiusculis acutis atris anguste diluteque marginatis, extimis laxis. Bracteae paucae lineares
v. imae tantum lanceolatae. Pili ubique numerosi (1,5—) 3—4 (—6) mm longi. Glandulae
in involucrio subnumerosae parvae, in pedunculis dispersae. Flocci in squamis dispersi, in
margine subnumerosi, caulomata superne densissime, usque ad caulis medium deminute floccosa.
Ligulae luteae breviter ciliatae, stylus obscurus, achaenia atro-brunnea.

18—2300 m. Italia bor.-occid.: Col di Tenda (Bicknell); Alpes Gallicae: Lautaret,
les Grandes-Rousses, l'Oisans, le Chamoux, le Pelvoux; Mt.-Cénis, Hte-Maurienne, Pic de la
Corne, le Chablais (Arv.-T.). Sabaudia: Pte de Lachau, Pte de Chavache, Pte de Hautfleury,
Signal d'Entre-2-Pertuis (Briquet). Helvetia: Valesia: Mt. Clou, Grd.-St.-Bernhard, Alpien.
Binn; in Alpibus supra Bex, Ormonts; Montbovon, Les Morteys, Bellegarde; Grindelwald.

Exsiccata: Zahn, Hieraciotheca Europaea 185, 284 (e iugo „Lautaret“).

Tab. 181. *H. valdepilosum* Vill. ssp. *valdepilosum* (Vill.) N. P. (e iugo Lautaret: Pied
du Col, leg. A. et C. Touton). 1. Apex ligularum. 2. Squama. 3. Pedunculus sub involucrio.
b. *Elongatum* N. P.

Subspecies **glabrescens** Lager, apud N. P. II p. 218; *H. Lemanium* A.-T., in
J. Briquet, Notes flor. Alp. Léman. (1889) p. 24 p. p. Caulis ad 35 cm altus, 2—5 cephalus,
acladio 2—4 cm longo, hypo- v. aphyllopodus. Folia caulina 7—10, ima \pm spatulato-oblonga
rotundataque, petiolata, sequentia basin versus angustata, obtusa v. acutiuscula, summa basi
ovata v. semiamplexicaulia, acuta, omnia dilute viridia subglaucescentia, mollia, remote denti-
culata v. subintegerrima, marginem versus margineque tantum breviter pilosa. Caulis superne
densius, inferne deminute pilosus. Involucrum 10—12 mm longum, squamis angustis acu-
tissimis subatris immarginatis sat dense pilosis, exterioribus subsquarrosis lanceolatis subfolio-
laceis, apicem versus tantum sparsim glandulosis effloccosis. Caulomata superne subtomentosa.
Ligulae luteae, sparsim breviterque ciliatae. Achaenia atro-brunnea.

19—2300 m. Helvetia: In alpibus supra Vevey, Montbovon, Ormonts, Bex (Lager,
Muret); in m. Grammont et pr. Zinal (Bernoulli); Alpien (Chenevard); Les Morteys (Jaquet).
Helv. orient: In alp. Abbatiscellanis (Zollikofer), Ochsenalpe pr. Curiam (Wilczek); Helv.
austr.: Cherasca supra Kargo (Wilczek). Bavaria: In m. Rotwand pr. Schliersee 17—1800 m
(Naegeli).

Tab. 182. *H. valdepilosum* Vill. ssp. *glabrescens* Lager (in iugo Bonaudon inter Allières
et Rochers-de-Naye legi). 1. Apex ligularum. 2. Squama. 3. Pedunculus sub involucrio.
4. Foliorum margo.

Annotatio: Planta in nostra tabula delineata aphyllopoda est. Folia dua, quae primo
aspectu caulis basi inserta apparent, e gemma laterali orta sunt et rosulam lateralem pauci-
foliam sistunt.

c. *Oligophyllum* N. P.

Subspecies **oligophyllum** N. P. II p. 220; *H. elongatum* v. *intermedium* A.-T., Hier.
Alp. franç. p. 28 p. p.; *H. praetensum* A.-T. et Briq., Nouv. not. flor. Alp. Léman. (1899) p. 87;
p. p. Caulis phyllopodus v. hypophyllopodus, ad 40 cm altus, sat dense pilosus (2—4 mm),
3—4 (—9) cephalus. Folia caulina in caule phyllopodo c. 4, in caule hypophyllopodo ad 8,
intimum basi attenuatum, lanceolatum v. pariter ac sequentia oblongum, summa multo latiora.

cordato-ovata, amplexicaulia, rosularia oblongo-lanceolata, basin versus attenuata subpetiolata, omnia viridia, subtus paulo pallidiora, utrimque modice v. dense pilosa (2—3 mm). Acladium 2—6 cm longum. Involucrum 12—14 mm longum dense pilosum (1—2 mm), squamae sublatiusculae v. angustae longissime acuminatae acutissimae apicem versus tantum minutissime disperseque glandulosae, fere effloccosae, exteriores subsquarrosae. Caulomata superne tomentosa. Bractee foliolaceae. Ligulae glabrae; stylus obscurus, achaenia subatra.

Variat: $\alphagenuinum N. P. II 221. Folia ut supra. — Delphinatus: Lautaret etc.; Sabaudia; Flora Valdostana usque ad 2700 m; Helvetia: Jurassus, Valesia, in alpinis supra Montreux, Bex, Ormonts, Helvetia media, australis, orientalis; Italia bor.-occid.: Limone, Formazza; Algovia, Alpes Bavaricae; Carinthia: Pasterze, Raibl, etc. 15—2100 m.$

β) **phaeostylum** N. P. I. c., foliis haud conspicue latis, oblongis, basi rotundatis v. subamplexicaulibus; achaeniis rubro- v. atro-brunneis.

1) normale N. P.

a) *verum* N. P., involucro 13—16 mm longo, ligulis subglabris. — Tirolia: Tristen in Weissenbach (Treffer); Alpes Bavaricae: Rotwand; Helvetia orient.: Splügen; Helv. occid.: Zermatt, Catogne, Bagnes, Arbaz; Abländschen; Grindelwald; Pedemontium: in v. Formazza; Delphinatus: Lautaret; Flora Valdostana: Champorcher, Breuil (Vaccari).

b) *minoriceps* N. P., involucro 10—11 mm longo, ligulis saepius subciliatis, foliis \pm lanceolatis. — Helvetia: Parpan, Ormonts, Catogne; Pedemontium: Limone. — Exsicc.: Hierac. Naegel. 388*.

2) *tubuliflorum* N. P., floribus tubulosis, stylis exsertis atris, foliis \pm serrato-dentatis, variationis α similibus. — Carinthia: Fischbachalpe, Tirolia: in iugo Padon (Preissmann, de Benz).

3) *ovatum* N. P. II 222, foliis \pm late lanceolatis, mediis summisque basi ovata sessilibus. — Carinthia: Pasterze; Helvetia: Kalkberg supra pagum Spluegen (Naegeli).

4) *subulisquamum* N. P. (*H. villosum* Fr., Hierac. Europ. exs. 37), foliis \pm oblongis, summis tantum subamplexicaulibus, squamis angustis. — Helvetia: Kalkberg, Eginental (Naegeli, Lager); Algovia: Pointalpe (Sendtner).

Exsiccata: Zahn, Hieraciotheca Europ. 186 (var. β 1 b).

Tab. 183. *H. valdepilosum* Vill. ssp. *oligophyllum* β) *phaeostylum* 1) normale a) *verum* N. P. (Tristen, leg. Treffer). 1. Apex ligularum. 2. Squama. 3. Pedunculus sub involucro. 4. Foliorum margo.

106. Hieracium mollitum Arv.-T., in Decaisne, Cat. gr. Mus. Paris. (1877) p. 5 (nomen sol.); Hierac. Alp. franç. (1888) p. 100. *H. mespilifolium* A.-T., Suppl. à Monogr. (1876) p. 12 p. p. et exsicc. in Soc. Dauph. (1878) no. 1729; **valdepilosum—chloropsis** Zahn.

Inter *H. valdepilosum* Vill. (= *prenanthoides—villosum*) et *H. chloropsis* Gren. [= *lanatum—glauropsis (subspeciosum)*] intermedium. Caulis 20—40 cm altus distincte angulato-striatus erectus subflexuosus, sat dense longeque molliter pilosus apice \pm floccosus, hypophyllopodius v. aphyllopodus, apice ramosus altifurcatus oligocephalus v. saepius usque ad medium

v. usque ad basin squarroso-ramosus pleiocephalus, ramis inferioribus elongatis foliatis apice ramulosis oblique erectis dense longeque pilosis \pm floccosis apicem versus albo-tomentosis. Acladium ad 6 cm longum, ordines axium 2—3. Folia caulina 8—15 oblongo-lanceolata v. paulo angustiora, integerrima v. denticulata, subglauca v. pallide viridia, molliter sublongeque pilosa, ima in petiolum late alatum sensim angustata v. florendi tempore iam emarcida, sequentia basi angustata sessilia appropinquata, media summaque sensim magis remota, basi rotundata v. dilatata, sessilia v. \pm amplexicaulia, sursum sensim sublongeque acuminata acuta, summa in bracteas foliaceas pedunculorum decrescentia. Involucrum 11—13 mm longum late ovatum, squamis latiusculis acuminatis obtusiusculis v. acutiusculis dense pilosis, disperse, in margine densius v. dense floccosis, sparsim minuteque glandulosis, exterioribus sublaxis. Pedunculi tomentosi dense pilosi saepius eglandulosi. Ligulae luteae, apice breviter subciliatae, stylus lividus, achaemia dilute v. griseo-brunnea.

Tota planta pilis dilutis \pm canescens.

Hab. Delphinatus: In m. Viso: Vallon du Guil, Chalet de Ruines etc.; in m. Pelvoux: le Valbonnais, in iugo Lautaret etc. (A.-T.).

Tab. 184. *H. mollitum* A.-T. (e Vallon du Guil, près du chalet de la Tranchée, 2000 m, leg. Arv.-Touvet). 1. Apex ligularum. 2. Squama. 3. Pedunculus sub involucrio.

107. *Hieracium cydoniifolium* Vill. = *prenanthoides* > *villosum* Zahn. — Vill., Hist. pl. Dauph. III (1789) p. 107; Gren. Godr., Fl. de Fr. (1850) p. 378; Griseb., Comm. p. 33 p. p.; A.-T., Monogr. (1873) p. 41; Zahn, in Koch Syn. (1901) p. 1868, in Hierac. d. Schw. (1906) p. 437; nec auct. al.; ? *H. cotoneifolium* Lam., Dict. 2 p. 367, non Froel.; *H. trichodes* Griseb., in Rechb. Comp. (1860) p. 88, tab. 179 f. 1; Fries, Epicr. p. 123; *H. vulgatifforme* et *Villarsianum* A.-T., Essai suppl. p. 14, 15; *H. Grenieri* Fries (commem.) Epicr. p. 119. — Hue pertinent *H. valdepilosum* B. *parcepilosum* A.-T., Monogr. p. 42; *H. parcepilosum* A.-T., Hier. Alp. fr. (1888) p. 103; *H. Breynium* G. Beck, Fl. v. Hernstein (1884) p. 448, tab. V fig. 1 a; Fl. Nied.-Öst. (1893) p. 1305; *H. Cottianum* A.-T., Bull. Soc. Dauph. (1886), exs. 469, et Hier. Alp. franç. p. 102; *H. villosum*—*prenanthoides* F. Schultz, Arch. (1855) p. 61 (= *trichodes* Griseb.); Juratzka, in Neilreich, I. Nachtr. Fl. Nied. Österr. (1866) p. 60 (= *Breynium* G. Beck); *H. virescens* Schl. in sched. p. p.; *H. denticulatum* b) *macrotytus* Reichb. fil., Comp. tab. 184 (1860); etiam *H. aronicifolium* A.-T., Hier. Alp. fr. p. 102, *H. litigiosum* A.-T. l. c., *H. strigosulum* A.-T. in sched. = *H. strigosum* A.-T. l. c. p. 103 nec Don, *H. mespilifolium* A.-T. l. c. p. 93 etc.

Caulis gracilis v. tenuis, raro crassiusculus, saepe flexuosus, striatus 30—80 cm altus, plerumque aphyllopodus. Folia caulina 8—12 (—16) sensim decrescentia et in 1—3 bracteas transeuntia, ima plerumque emarcida, inferiora lanceolata v. oblongo- v. ovato-lanceolata \pm sensim in basin \pm amplexicaulem petioliformem attenuata v. pariter ac media basi + panduriformi semiamplexicaulia, superiora basi lata truncata v. rotundata v. profunde cordata sessilia v. \pm amplexicaulia auritaque, omnia acuminata, obtusiuscula v. acuta, \pm integerrima v. denticulata v. dentata, dilute v. obscure viridia v. canescenti-viridia, exsiccatione saepe lutescentia, parum v. intense glaucescentia, subtus pallidiora et + reticulato-venosa, submollia v. rigidiuscula. Inflorescentia \pm paniculata, plerumque + determinata, interdum indeterminata et usque ad caulis basin descendens, (2—) 5—12 (—25) cephalis, acladio brevissimo v. ad 20 mm longo, ramis (1—) 2—5 (v. compluribus), arcuato- v. oblique ascendentibus, monocephalis v. 1 (—2)-pliciter ramosis. Involucrum 9—11 (—14) mm longum \pm ovatum basi rotundatum v. truncatum, squamis angustis v. \pm latiusculis, acuminatis, obtusiusculis v. acutis (haud ut in

H. valdepiloso acutissimis), subobscuris + dilute marginatis, exterioribus saepe sublaxis. Pili in involuero, pedunculis et in caulomatibus modice numerosi v. sat densi 1—3 (—4) mm longi, diluti, in plantae superioribus partibus basi obscuri, involucrium interdum \pm sparsim pilosum, folia mediocriter pilosa v. supra \pm glabra. Glandulae in involuero et in caulomatibus superne dispersae v. subdensae saepe parvae, deorsum cito diminutae et nullae. Flocci in involuero sparsissimi v. \pm densi, pedunculi cani v. subtomentosi, caulis saepe usque infra medium subfloccosus, folia effloccosa. Flores plerumque saturate lutei, ligulae apice \pm ciliatae v. fere glabrae, stylus \pm obscurus; achaenia rubro-brunnea v. brunnea, rarius griseo-brunnea.

Hab. Col di Tenda, Pedemontium, Delphinatus, Sabaudia, Alpes Helvetiae, Vorarlbergia, Tirolia, Bavaria australis, Salisburgia, Carinthia, Stiria, Austria inferior, Bosnia. — Flor. Iul., Aug.

Dispositio gregum:

- a. *Trichodes* Zahn, Hier. d. Schw. (1906) p. 439. Involucri magnitudo ut in *H. elongato*, foliatio *H. prenanthoidis*, glandulae parum evolutae, sed in involucris pedunculisque semper observandae, flocci iam in pedunculorum basi valde diminuti, in caule nulli; achaenia rubro-brunnea. — Ssp. *trichodes* Griseb., *glandulostipes* N. P., *morteysense* Zahn.
- b. *Cottianum* Zahn l. c. Inflorescentia laxa paniculata, involucrium minus, crasse cylindrico-ovatum, pili ubique sat densi, in parte superiore foliorum minus evoluti v. subnulli. Glandulae numerosiores. — Ssp. *cottianum* A.-T., *ochroleucomorphum* Zahn, *parcepilosum* A.-T., *epileion* Zahn, *merlasicum* Zahn.
- c. *Mespilifolium* Zahn l. c. *H. prenanthoidis* valde affine, sed capitulis dispersae v. submodice pilosis differt. Folia caulina numerosa distincte reticulato-venosa. — Ssp. *subpanduratum* Zahn, *mespilifolium* A.-T., *semiperfoliatum* Zahn, *trichanthoidium* Zahn, *brassicoides* A.-T., *trichoiranum* Zahn.
- a. *Trichodes*.

Subspecies **morteysense** Zahn, in Schinz et Kell., Fl. d. Schw. ed. 2 II (1905) p. 324; Hierac. d. Schw. (1906) p. 439. Caulis ad 50 cm altus gracilis altefurcato-3—5 cephalus. Folia caulina ad 15, inferiora lanceolata v. subanguste lanceolata, media lanceolata, omnia basi longe v. breviter angustata sessilia, superiora tantum late v. ovato-lanceolata basi parum attenuata sessilia. Pili ubique breves. Involucrium ad 14 mm longum, squamis e basi lata tenuiter acuminatis. Flocci in involucris basi pedunculisque tantum densi.

Helvetia occid.: Les Morteys (Jaquet).

Tab. 188, Fig. A 1, 2. *H. cydoniifolium* Vill. ssp. *morteysense* Zahn (e loco class., leg. Jaquet). 1. Squama. 2. Pedunculus sub involucrio.

b. *Cottianum*.

1. Squamae subeffloccosae v. ad summum subfloccosae.

Subspecies **cottianum** Arv.-T. (1886), Hier. Alp. franç. (1888) p. 102. Folia caulina lutescenti-viridia subglaucescentia v. subobscura viridia vel subcanescentia saepe + purpureo-colorata, subnumerosa subappropinquata, illis *H. bupleurifolii* Tausch similia, plerumque ovato-lanceolata v. oblonga, rarius lanceolata, + amplexicaulia v. sessilia, inferiora basi angustata fere subpetiolata, omnia sat dense breviterque pilosa, in parte superiore minus pilosa v. glabrescentia, integerrima v. denticulata. Rami subconferti, accladium saepe brevissimum, pedunculi canescentes, modice pilosi glandulosique; involucrium 9—10 mm longum, squamis obtusiusculis v. acutis apice intense barbulatis, modice glandulosis pilosisque, interioribus intense alboviridi-marginatis.

Variat: a) **genuinum** Zahn, Hier. d. Schw. (1906) p. 440. Squamis obtusiusculis, interioribus acutis intense viridi-marginatis.

1) normale Zahn, foliis in parte superiore breviter subpilosus.

a) *verum* Z., involucris, pedunculis ramisque sat dense pilosis (2 mm).

b) *subpilosum* Z., involucris pedunculisque modice tantum pilosis.

Helvetia: Gd.-St. Bernhard: Les Combes, Pradaz 1850—2200 m (Besse), Praz fleuri, Bonaudon (Cottet), Ormonts (Mermod); in alpinis supra Vouvy: Taney (Bernoulli), La Chéséreulaz (Favre) etc.; in alpinis pr. Jaun et Reidenbach (Jaquet, Christener). — Delphinatus: Col de Glaise pr. Gap (Leresche), l'Oisans, Lautaret, Névache, Châteaurousse etc. (A.-T.); Mont Cénis, Hte-Maurienne: Bonneval (A.-T.); Drôme: Mt. Jocon supra Col de Grimone (A.-T.). — In Alpibus maritimis: Col de la Montière (Favrat), in alpinis de Raus 2000 m (Jaquet), d'Estenc au Col d'Alloz (Leresche).

2) *calvescens* Zahn, foliis dilutius viridibus, in parte superiore epilosis v. sparsim pilosis, subglauciscentibus sublucidis. — Helvetia: Nessli pr. Reidenbach in v. Simmental (Maurer), Maischüpfen supra la Villette (Jaquet); Pacoteires supra Alesse Valesiae (Besse); Tirolia: Brenner: in v. Vennatal (Huter), Luttach (Treffer); Stiria: Hühnerkaar pr. Wald 1800 m (Khek); Vorarlbergia: In m. Hoher Freschen (Custer).

3) *hirsutum* Zahn; *strigosulum* A.-T. in sched.; nec *H. strigosum* A.-T., Hierac. Alp. franç. p. 103; nec Don. Foliis in parte superiore pilis densis brevibus rigidiusculis obsitis. — Delphinatus: Lautaret, Névache, Col de Rochilles etc. (A.-T.); Helvetia: Gd.-St. Bernhard: Les Combes (Besse); Flora Valdostana: Val Champorcher: Bois de Panosa (Vaccari), Valpelline: Bionay—Prarayer 16—1900 m et inter Prarayer et glaciem Za-de-Zan 19—2200 m (Vaccari).

β) *obtusisquamum* Zahn, Hier. d. Schw. p. 440. Involucrum 9 mm longum, squamis omnibus obtusis v. obtusiusculis obscuris, interioribus olivaceo-viridisubmarginatis. — Gd.-St. Bernhard: Les Combes 2000 m (Besse). — Hypophyllopodum.

γ) *lungavicum* Zahn l. c. (*H. Breyninum* Fl. Austr.-Hung. exs. 3388 I p. p.). capitulis paucis, squamis exterioribus atris acutiusculis, interioribus viridisubmarginatis, involucri 9—11 mm longo. — Salisburgia: Tweng 1750 m (Pernhoffer); Carinthia: In iugo Plöcken (Pichler). — Formae subaffines in m. Gd.-St. Bernhard Helvetiae. — Forma cordifolium Benz et Zahn, capitulis 6—9, foliis inferioribus oblongis basin versus sublonge attenuatis, sequentibus basi panduriformibus amplexicaulibus, superioribus latioribus basi profunde cordatis, lobis contigendis, summis (in inflorescentia) sensim decrescentibus cordatis. — Carinthia: In m. Kočna (de Benz).

Exsiccata: Soc. franc.-hélv. (1896) no. 628 et 629 (Lautaret 2100 m, leg. Neyra); Dörfner, Herb. norm. 3117 (Weitfeld pr. Luttach Tiroliae, leg. Treffer).

Tab. 186. *H. cydoniifolium* Vill. ssp. *cottianum* A.-T. α) *genuinum* 2) *calvescens* Z. (in alpe Nessli supra Reidenbach in v. Simmental legi). 1. Apex ligularum. 2. Squama. 3. Pedunculus sub involucri. 4. Folii caulini superioris margo (hinc inde ut in *H. prenanthoidi* una altera glandula munitus).

1* Squamae modice v. dense floccosae.

Subspecies **ochroleucomorphum** Zahn, in Schinz et Kell, Fl. d. Schw. ed. 2 II (1905) p. 325, Hier. d. Schw. p. 441; „*H. ochroleucum*“ A.-T. in herb. Jaquet! Inter *H. cottianum* et *parcepilosum* intermedium. Caulis plerumque robustus 35—60 cm altus ad 25-cephalus. Folia caulina inferiora late lanceolata basi \pm panduriformia, longa, media superioraque e basi cordato-ovata oblonga acuminata, omnia \pm lutescenti-viridia denticulata, utrimque modice v. sat dense breviterque, in margine dense pilosa. Involuerum 10—11 mm longum, (pariter ac caulis) sat dense pilosum (2.5—3 mm), simul \pm dense floccosum et modice glandulosum; pedunculi consimiles.

Helvetia: Les Morteys in Alpibus Friburgensibus (Jaquet).

Tab. 187. *H. cydoniifolium* Vill. ssp. *ochroleucomorphum* Zahn (Les Morteys, leg. Jaquet).

1. Apex ligularum. 2. Squama. 3. Pedunculus sub involucri. 4. Foliorum margo.

Subspecies **parcepilosum** A.-T. l. c., *H. Breynium* G. Beck l. c.; *H. denticulatum* b) *macrotylus* Reichb., Comp. tab. 184. Ab *H. cottiano* differt foliis dilute viridibus glaucescentibus minus pilosis, in parte superiore saepe omnino epilosis lucidis, inferne pallide viridibus, plerumque maioribus, \pm ovato-lanceolatis, infimis basin versus angustatis, sequentibus basi lata sessilibus et amplexicaulibus, superioribus basi lata cordato-ovato auriculata amplexicaulibus. Pedunculi albido-canotomentosi. Squamae dense floccosae, in margine albido-canoe, modice v. sat dense pilosae (1—2 mm) glandulosaeque. Inflorescentia haud raro remote longaeque ramosa.

Variat: a) **genuinum** Zahn, Hier. d. Schw. 1906 p. 441. involucri dense floccoso, pedunculis albido-canoe modice tantum pilosis.

1) normale Z., squamis obtusiusculis acutisque.

a) *subaeruginosum* Z. l. c., foliis supra glabris. — Sabaudia: Roc d'Enfer, Signal d'Entre-2-Pertuis, Pic de Tanneverge, Haut de Morge — Col de Lovenex (Briquet). — Helvetia: Taney (Bernoulli), Grammont, Col de Coux, Les Combes in m. St. Bernhard (Besse), Zinal (Bernoulli); in alpibus inter Montbovon et Montreux, inter Jaun et Reidenbach, Les Morteys etc.; in alpibus supra Bex (Schleicher). In m. Padella pr. Samaden (A. et C. Touton). Flora Valdostana: Bois de Panosa (Vaccari). — In Alpibus marit.: Estenc ad fontes fl. Var (Burnat). — Delphinatus: Lautaret 21—2200 m (A.-T., Bernoulli).

b) *hirsutum* Z., foliis etiam in parte superiore \pm pilosis. — Helvetia: Taney (Jaquet), Pic de la Corne in v. d'Abondance (Briquet); Neuschels supra Jaun (Jaquet), in alpe Nessli supra Reidenbach (Zahn). In alpe Saxer Krinne supra lacum Fählensee ad orientem m. Saentis (Rehsteiner!), Kreuzgrat in alpe Braunwaldalpe v. Linthtal 1700 m (Bernoulli). Prope glaciem Forno Engadinae sup. (Hegi). — Carinthia: Ad m. Kočna supra v. Bärental (de Benz), Cellonkogel in iugo Plöcken 1550 m (Preissmann, de Benz) et in alpe pr. Hermagor (Pichler!); Tirolia: Inter Kals et iugum Bergertörl (de Handel-Mazzetti), in m. Tizl pr. Reutte (Gremblach). — Variat foliis integerrimis v. subdentatis.

c) *virescens* Z., involucri subatro, inferne pariter ac pedunculorum apex

dense floccoso minus piloso, floccis in pedunculis citissime deminutis, pilis minus numerosis. — Inter Taney et alpem Haut de Taney legi.

2) *obtusisquamum* Zahn, squamis obtusiusculis v. obtusis. — Nessli pr. Reidenbach (Maurer), Varvalannaz (Jaquet).

β) *breyningum* G. Beck l. c. Inflorescentia ± conferta, ramis ± strictis, capitulis in apice ramorum caulisque confertis; involucrum et pedunculi sat dense floccosi pilosique. Folia fere integerrima, capitula plerumque parum numerosa. — Austria inf.: In m. Schneeberg: in faucibus supra „Baumgartnerhütte“, in vallecula „Saugraben“ et in loco „Heuplagge“ (G. Beck). — Cultum ad 15—18 foliatum, ramis ad 12, capitulis ad 50, ramis foliosis.

γ) *emigratum* Zahn, caule crasso glabro, inferne violaceo, acladio 10—15 mm longo, ramis 8—10 brevibus, capitulis ad 25, squamis latis obtusiusculis obscuris modice pilosis glandulosisque, disperse floccosis; foliis rigidiusculis supra glabris lucidis, irregulariter glanduloso-denticulatis v. dentatis. Formulae *lanceolatum* > *villosum* respondens. — Bosnia: in m. Vlašić pr. Travnik (Brandis).

Exsiccata: Zahn, Hieraciotheca Europ. no. 75.

Tab. 185. *H. cydoniifolium* Vill. ssp. *parcepilosum* A.-T. (in iugo Lautaret versus Galibier 2100 m, leg. A. Faure). 1. Apex ligularum. 2. Squama. 3. Pedunculus sub involucro. c. *Mespilifolium*.

Subspecies *mespilifolium* A.-T., Hier. Alp. franç. (1888) p. 93; Zahn in Hier. d. Schw. p. 442. Habitu *H. prenanthoidis* ssp. *spicati* All. Folia caulina numerosa appropinquata integerrima v. obsolete denticulata v. basin versus subdentata, elliptica v. oblonga v. superiora ovato-lanceolata, inferiora basin versus attenuata, reliqua basi rotundata sessilia et semiamplexicaulia. vix panduriformia, utrimque pilosa. Inflorescentia conferta paniculata; involucrum 9—10 mm longum. squamis obscuris obtusiusculis v. acutis, modice v. subdense floccosis, submodice pilosis, sat dense glandulosi; pedunculi consimiles, cani. *Achaenia* griseo-brunnea.

Helvetia: In alpe Nessli supra Reidenbach in v. Simmental (Maurer), Alpligen supra Oberwil (Christener), Les Morteys et Neuschels pr. Jaun (Jaquet). Boëllaire (Wilczek), Pacoteires supra Alesse (Besse). — Salisburgia: Inter Sagereckalpe et Funtensee (Vollmann); Carinthia: In iugo Plöcken (Pichler).

Delphinatus: Lautaret (Reuter), versus Galibier 2100 m in consortio *H. prenanthoidis* ssp. *spicati* et *H. cottiani* (A. Faure!).

Tab. 188, Fig. B. 3, 4. *H. cydoniifolium* Vill ssp. *mespilifolium* A.-T. (e iugo Lautaret: La Varille, leg. A. Faure). 3. Squama. 4. Pedunculus sub involucro.

Subspecies *subpanduratum* Zahn, in Schinz et Kell., Fl. d. Schw. ed. 2 II (1905) p. 325; Hier. d. Schw. (1906) p. 442. Caulis gracilis, ad 60 cm altus, squarroso-3—5 ramosus. Folia caulina ad 10 subremota, ima elongata, basin versus longe attenuata, sequentia supra basin cordatam amplexicaulem auriculatam attenuata panduriformia, oblongo-lanceolata, superiora e basi lata cordata amplexicaulia sensim acuminata, omnia dilute viridia, in parte superiore glaucescentia sparsim pilosa, subtus pallidiora et modice breviterque pilosa, in margine nervoque dorsali dense pilosa. Capitula pauca v. ad 10, involucrum 9 mm longum ovato-cylindricum denique truncatum, squamis subangustis acutiusculis v. acutis subatris, interioribus

viridi-submarginatis, exterioribus canescentibus, in margine densissime floccosis, breviter subpilosis et sat dense glandulosis; pedunculi subepilosi albido-canotomentosi, sat dense glandulosi. Flores saturate lutei.

Habitu *H. parcepilosi*, sed involueris minoribus pilis minus numerosis obsitis transitum *parcepilosum* → *prenanthoides* sistit.

Helvetia: In Alpibus Friburgensibus: Varvalannaz, L'Urquy supra Allières, Col de Maischüpfen, Neuschels supra Bellegarde (Jaquet).

Tab. 189. *H. cydoniifolium* Vill. ssp. *subpanduratum* Zahn (Varvalannaz, leg. Jaquet).
1. Apex ligularum. 2. Squama. 3. Pedunculus sub involuero.

108. Hieracium chlorifolium A.-T. = **valdepilosum—bupleuroides** (v. *valdepilosum—glaucum*) = **prenanthoides—villosum—bupleuroides**. — A.-T., Essai (1871) p. 44; Hier. Alp. fr. (1888) p. 29; Zahn, in Koch Syn. (1901) p. 1870; *H. scorzonrifolium* forma *H. chlorae-folium* A.-T., Monogr. (1873) p. 23; Suppl. à Monogr. p. 7; *H. Penninum* N. P. II p. 165; nec Rapin; *H. (prenanthoides-villosum)—glaucum* N. P. I. c.

Caulis 20—50 cm altus ± flexuosus, phyllopodus, hypophyllopodus v. aphylllopodus. Folia rosularia 0—3 (—10) longe in petiolum saepe haud distinctum attenuata, lanceolata v. angustiora, ± acuta, denticulata, ± glauca, saepe ± rigidiuscula. Folia caulina 4—7 (—11) sensim decrescentia, inferiora saepe basi ± attenuata sessilia, media superioraque basi rotundata v. ± amplexicaulia sessilia, infra caulis medium saepe marginibus ± parallelis praedita v. interdum inconspicue panduriformia. Inflorescentia furcata v. laxe paniculata indeterminata 1—10 cephala, acladio 2—8 (—10) cm longo, ramis nullis v. ad 4 erecto-patentibus monocephalis v. simpliciter ramulosis. Involucrium 12—17 mm longum ovatum v. oblongo-ovatum denique truncate, squamis obscuris ± latis linearibus, omnibus v. exterioribus tantum acutis, interioribus ± obtusiusculis. Bractae 2—4, inferiores plerumque foliolaceae, summae subulatae. Pili in involucrio subdensi diluti 1—3 mm longi, in caulibus folisque parci v. ± nulli. Glandulae parvae, in involucrio tantum dispersae v. sparsae v. nullae. Flocci in squamis dispersi v. densi, squamarum margo ± tomentosus, caulis superne canotomentosus, folia effloccosa. Flores dilute v. saturate lutei, interdum tubulosi, dentes ligularum glabri v. breviter ciliati, stylus obscurus v. dilutus. Achaenia plerumque rubro-brunnea, 4—4,8 mm longa.

Pedemontium, Delphinatus, Jurassus, Alpes occidentales, Vorarlbergia, Tirolia, Salisburgia, Austria sup., Aprutii. — Flor. Iul., Aug.

Plantae inter *valdepilosum* et *bupleuroides* v. inter *valdepilosum* et *glaucum* v. inter *scorzonrifolium* et *prenanthoides* v. inter *scorzonrifolium* et *valdepilosum* intermediae. Habitu *H. scorzonrifolio* ± similes, sed foliorum caulinarum numero et figura et involucri structura *H. prenanthoidis* vim ± prae se ferentes.

Dispositio gregum:

- a. Pulchrum Zahn, in Koch Syn. (1901) p. 1871. Planta modice v. ± dense pilosa. Folia caulina 3—8, ima (et rosularia) denticulata v. dentata. Rami monocephali, capitula 1—2, raro ad 4, involucrium ± magnum plerumque villosum. Achaenia plerumque subatra. — Ssp. *Vulpianum* N. P., *leoninum* N. P., *pulchrum* A.-T., *pulchriforme* M. et Z.
- b. Chlorifolium Zahn l. c. Plantae ± glabrae v. parcepilosae, foliis caulinis 5—15 integerrimis v. denticulatis. Caulis oligo- v. pleiocephalus, ramis saepius ramulosis 1—3 cephalis. Involucrium minus, plerumque minus pilosum sed magis floccosum. Achaenia plerumque rubro-brunnea. — Ssp. *pseudopenninum* Zahn, *chlorifolium* A.-T.

a. *Pulchrum*.

Subspecies **Vulpianum** N. P. II p. 166: *H. speciosum* Vulp. in sched. et Reichb. Comp. tab. 205 f. 2: *H. pulchrum* f. *genuinum* A.-T., Hier. Alp. franc. p. 30 p. p.: *H. pulchrum* f. *subpilosa* A.-T. in sched. Habitu *H. scorzonrifolii*. Folia rosularia 3—4 v. compluria subpetiolata dentata lanceolata, exteriora lanceolato-spathulata obtusiuscula, caulina 4—6 sessilia subsensim decrescentia lanceolata, inferiora basi attenuata, superiora basi rotundata, omnia in nervo dorsali tantum modice pilosa (3—4 mm), in margine basin versus disperse v. subpilosa. Caulis 30—40 cm altus flexuosus, disperse, inferne modice pilosus (3—4 mm). Acladium 6—10 cm longum, capitula 1—3, 15—16 mm longa, squamis sat dense pilosis (2—3 mm), sparsim, in margine subdense floccosis, apice tantum minutissime subglandulosis, exterioribus angustis, interioribus latiusculis acutis dilute submarginatis. Pedunculi apice leviter tomentosi, subpilosi, eglandulosi. Flocci iam supra caulis medium evanidi. Stylus dilutus. Bractee 3—5, inferiores lanceolatae.

Helvetia: Kühstaffel in v. Binntal versus iugum Albrun 1750—1820 m (Vulpius!); Tirolia: Schnanner Klamm in v. Stanzertal (Preissmann).

Tab. 190. *H. chlorifolium* A.-T. ssp. *Vulpianum* N. P. (e loco classico, leg. A. Kneucker). 1. Apex ligularum. 2. Squama. 3. Pedunculus sub involuero.

Subspecies **pulchrum** A.-T. (1887); Hierac. Alp. fr. (1888) p. 30. Habitu *H. valde-pilosi* ssp. *elongati*, sed foliis glaucis. Caulis plerumque hypophyllopodus 30—70 cm altus gracilis v. crassiusculus, saepe angulato-striatus, calvenscens v. subpilosus, 1—3-, rarissime ad 5 cephalus. Acladium 5—10 cm, rami plerumque 1—2 graciles v. crassiusculi. Involucrum 13—15 mm longum denique latissime depressum, squamis subatris breviter albovillosis, sparsim minutissimeque glandulosis, in margine tantum subfloccosis, exterioribus angustis, interioribus latiusculis acuminatis acutiusculis subviridi-marginatis, intimis saepe acutis. Pedunculi tomentosi modice pilosi eglandulosi, flocci iam supra caulis medium evanidi. Folia rosularia plerumque emarcida, caulina 3—8 (—10) lanceolata v. ovato-lanceolata, plerumque sat magna, supra glabra, subtus disperse vel pariter ac in margine nervoque dorsali subpilosa (3—5 mm), inferiora basi attenuata, superiora basi rotundata sessilia subamplexicaulia. Stylus luteus.

Delphinatus: Lautaret [au Pied du Col], Col de l'Échauda, Villard-d'Arène, Arcines, les Gdes-Rousses, inter rupes Rissiou et les Aiguillettes; Mt. Aurouse pr. Gap etc. (A.-T.), Gorges d'Engins (Neyra). — Sabaudia: Arrêtes des Rochers de Grédon au-dessus de la côte d'Arbroz 17—1800 m (Briquet).

Exsiccata: Arv.-T. et Gautier, Hieracioth. Gall. no. 11! — Soc. franco-hélv. no. 636! — Zahn, Hieraciotheca Europ. 286.

Tab. 191, Fig. A 1, 2. *H. chlorifolium* A.-T. ssp. *pulchrum* A.-T. (in m. Aurouse leg. A. Faure). 1. Squama. 2. Pedunculus sub involuero.

Subspecies **leoninum** N. P. II p. 167. Habitu *H. elongati*, foliis ut in *H. scorzonrifolio*. Caulis 20—30 cm altus, superne disperse, inferne modice pilosus, 1—2 cephalus, acladio 2,5—8 cm longo. Folia rosularia 3—5, basi angustata haud petiolata, lanceolata v. angustiora, obsolete denticulata; caulina 4—8 sensim decrescentia lanceolata, inferiora basi rotundata, summa semiamplexicaulia, omnia in nervo dorsali et in margine basin versus subpilosa (3—5 mm). Involucrum ut in ssp. *elongato*, 13—14 mm longo, squamis latiusculis longe acuminatis acutis subatris dilute marginatis sat dense pilosis (2—3 mm) sparsim minuteque glandulosis et sparsim, in margine ± dense floccosis. Pedunculi cani subpilosi

eglandulosi, caulis fere usque ad medium subfloccosus. Stylus obscurus. Bracteenae c. 3, inferiores foliolaceae.

Helvetia: Iuxta iugum Simplon: inter Schalbet et Kulm (Favre), Kaltwassertobel 1885—2275 m, Croix de Schalbet, Refugium V (Favre, Naegeli), in v. Nesseltal (Wolf); in v. Bagnetal (Wolf); Ormonts (Naegeli).

Tab. 191, Fig. B 3, 4. *H. chlorifolium* A.-T. ssp. *leoninum* N. P. (e iugo Simplon, leg. Favre). 3. Squama. 4. Pedunculus sub involuero.

Subspecies **pulchriforme** Murr et Zahn, in Zahn, Hier. d. Schw. 1906 p. 446: *H. pulchrum* A.-T. in sched.; Zahn, in Koch Syn. (1901) p. 1871; *H. dentatum* v. *longifolium* Evers. Ö. B. Z. (1893) p. 425; *H. speciosum* ssp. *melanophaeum* Murr. in Doerfler, Herb. norm. XXXII no. 3133; nec N. P. Caulis 15—40 cm altus ascendens flexuosus, ubique modice longeque pilosus (3—6 mm), saepe usque ad basin \pm floccosus. Folia rosularia ad 10 lanceolata v. oblongo-lanceolata, basin versus angustata fere subpetiolata, denticulata v. \pm dentata, supra glabra, subtus disperse, in margine nervoque dorsali \pm longe molliterque pilosa; caulina 2—6 saepe subeito decrescentia, ovato-lanceolata, saepe sat magna, inferiora basi angustata, superiora basi rotundata sessilia. Inflorescentia furcata, capitulis (1—) 2—4, acladio ad 4 cm ad $\frac{2}{3}$ totius caulis longo, rami 1—3 valde remoti arcuato-erecti monocephali graciles, bracteis numerosis, inferioribus \pm foliolaceis obsiti. Involucrum 15—17 mm longum globosum denique late ventricosum, squamis subangustis obtusiusculis v. acutis atroviridibus dilute marginatis, sat dense albo-villosis (2—4 mm), basin versus in margine subfloccosis, glandulis solitariis obsitis. Pedunculi cani eglandulosi modice longeque pilosi. Stylus subluteus.

Vorarlbergia: In iugo Arlberg supra pagum Stuben (Evers), ad lacum Formarin-See supra Dalaas (Milz); Liechtenstein: in v. Malbuntal (Richen), inter St. Rochus et iugum Sareiser Joch (Zahn), Panüler Alpe (Bernoulli); Tirolia: pr. Lechleiten (Murr). — In iugo Arlberg primum a cl. Rehsteiner inventum, sed ab *H. saxatili* haud disiunctum.

Formae affines: pr. Lofer Salisburgiae (de Benz) et in m. Pyrgas Austriae sup. Inter *H. bupleuroides* Gmel. et *H. elongatum* intermedium, quibuscum crescit.

Tab. 192. *H. chlorifolium* A.-T. sp. *pulchriforme* M. et Z. (pr. Stuben, leg. J. Murr).

1. Apex ligularum. 2. Squama. 3. Pedunculus sub involuero.

B. Chlorifolium.

1. Flores tubulosi, stylis longe exsertis obacuris.

Subspecies **pseudopenninum** Zahn, in Koch Syn. (1901) p. 1871; Hier. d. Schw. p. 447: *H. flexuosum* **helveticum* Fries, Hierac. Europ. exs. 39^{*}; *H. scorzonrifolium* γ *calvum* Christener, Hierac. d. Schw. p. 12 p. p.; *H. speciosum* Rapin, Fl. Vaud.; Christener l. c. p. p.; Lagger, Cottet in sched.; *H. Penninum* ssp. *Penninum* N. P. II p. 165; nec Rapin; *H. falcatum* A.-T., Hier. Alp. franç. p. 19 ex syn., nec descript.; *H. falcatum*, *chlorifolium* et *fulcratum* A.-T. in sched. — Caulis 30—55 cm altus tenuis v. gracilis, inferne plerumque violaceus, superne disperse, basin versus subpilosus (1.5—3 mm), in summa tertia parte saepe subfloccosus, phyllopodus, hypo- v. aphyllpodus. Folia rosularia 1—3 vel nulla, lanceolata subpetiolata, caulina 7—15 sensim, superne magis cito decrescentia, sessilia, ima basi angustata, superiora basi \pm rotundata v. \pm amplexicaulia, omnia late lanceolata v. lanceolata subelongata sensim acuminata, denticulata, in margine nervoque dorsali tantum disperse mediocriterve pilosa (2—3 mm).

Inflorescentia laxè paniculata, aeladio 1—2 (—5) cm longo, ramis primariis 1—4 (—7), 1—3 cephalis, capitula 3—12, involucrium 12—14 (—15) mm longum ovatum denique subtruncatum, squamis latis linearibus, acutiusculis v. obtusis, atris, utrimque farinoso-floccosis, vix medioeriter obscureque pilosis (1 mm), disperse minuteque glandulosis. Pedunculi canotomentosi, pilis dispersis basi atris, subglandulosi. Achaenia rubrobrunnea.

Helvetia: Bonaudon, L'Urquy supra Allières (Favrat), Montbovon (Muret), Château d'Oex: La Vausseresse, Les Mérils (Leresche), Les Merlas, Les Morteys (Jaquet, Favrat), Mokausa supra Rougemont (Leresche); Reidenbach in v. Simmental: Klusalpe, Mittaghorn (Maurer); Ormonts: Creux-de-Champ (Naegeli); Catogne (Delasoie), Zermatt: in den Gruben (Lagger), inter Zermatt et Zmutt (Naegeli); Italia bor.: Cogne Chavanis 2000 m (Wilczek); in valle Formazza: supra cataractas torrentis Tosa (Naegeli); Jurassus: Crête de Grangy (de Tavel).

Tab. 193. *H. chlorifolium* A.-T. ssp. *pseudopenninum* Zahn (in vallecula Les Morteys legi). 1. Flos. 2. Squama. 3. Pedunculus sub involucrio.

1* Flores evoluti, stylus luteus.

Subspecies **chlorifolium** A.-T. l. c.; N. P. II p. 169; Zahn, Hierac. d. Schw. p. 448. Caulis 10—50 cm altus flexuosus, epilosus v. disperse pilosus, phyllopodus v. hypophyllopodus. Folia rosularia 1—2 vix petiolata lanceolata, caulina 5—12 ovato-lanceolata v. lanceolata, inferiora lanceolata, basin versus longe attenuata, media latiora, basi subangustata v. aequilata sessilia, superia basi ovata, interdum abrupte attenuata brevissime subpetiolata, omnia apicem versus sensim attenuata, denticulata v. plerumque integerrima, in margine basin versus tantum subpilosa v. in margine nervoque dorsali submodice pilosa. Inflorescentia ± indeterminata, (1—) 3—13 (—15) cephalis, aeladio 2,5—8 cm longo, ramis primariis (1—) 2—5 (—10), 1—3 cephalis. Involucrium 1,3—1,7 mm longum globosum, squamis latis atro-viridibus sat dense diluteque pilosis (2—3 mm), disperse modiceve (in margine tantum densissime) floccosis, exterioribus saepe angustioribus acutis, interioribus obtusiusculis. Glandulae ± nullae. Pedunculi cani, ubique v. apice subpilosi. Flores ± aureo-lutei, ligulis apice plerumque glabris, stylis luteis. Achaenia dilute rubro-brunnea.

Variat: α) **genuinum** A.-T., Hier. Alp. fr. l. c. Planta ± epilosa, involucrium ± pilosum, pedunculi apice disperse, folia caulina inferiora basi sparsim pilosa. — Delphinatus: In alpibus m. Viso: Vallée du Guil, chalet de Ruines, la Traversette en Queyras; in alp. calc. inter Grenoble et Die, St.-Nizier, la Mouche-rolle, le Gd Veymont etc. (A.-T.); Hte-Maurienne: à la Madeleine, Mt. Cénis etc. (A.-T.). — Alpes Maritimae: Vallée de l'Ellero: ad pedem m. Grosso 1500 m inter Les Gias de Ponteto et Pontet sop. (Burnat); inter Col de Pelouse et Janzières (Favrat); Le Lauzanier [Col de Larche] (Vidal). Exsicc.: Soc. dauphinoise no. 1720.

β) **pilosum** A.-T. l. c. Caulis foliaque ± pilosa.

a) *verum* Zahn, Hier. d. Schw. p. 448; involucrio ± dense piloso subvillosa, caule et foliorum margine nervoque dorsali subpiloso (3—5 mm), foliis in parte aversa disperse pilosis. — Helvetia: Château-d'Oex (Leresche), Les Morteys (Schröter et Wilczek); Jurassus: Colombier de Gex (Déséglise); Sabaudia: Vallon d'Odda pr. Samoëns: La Barme, Les Gds-Vaux versus lacum de Gers 1900 m (Briquet).

b) *subglabrum* A.-T. et Briq., Nouv. liste d'Eperv., in Ann. Jard. bot. Genève (1901) p. 152. Minus pilosum, involucris pedunculisque pilis obscuris dispersis munitis. — Sabaudia: In iugo Col d'Ubine 1700 m (Briquet); Helvetia austr.: Colla supra Fusio (Zahn).

c) *elongatifolium* A.-T. et Briq. l. c., foliis valde elongatis ad 16:2,5 cm longis, reliqua ut in a. — Sabaudia: Pte de Marcelly 18—2000 m (Briquet).

Tab. 194. *H. chlorifolium* A.-T. ssp. *chlorifolium* A.-T. γ) *pilosum* b) *subglabrum* A.-T. et Briq. (retro Colla supra Fusio legi). 1. Apex ligularum. 2. Squama. 3. Pedunculus sub involuero.

109. Hieracium Richenii Murr, Cat. Wiener Bot. Tausch-Ver. (1900) p. 132; Zahn, in Koch Syn. (1901) p. 1872; = *chlorifolium*—*bifidum*; *chlorifolium* v. *pulchrum-silvaticum* Zahn l. c.

Caulis 35—60 cm altus gracilis, saepe ascendens, \pm flexuosus, praecipue basim versus disperse pilosus, valde striatus, phyllopodus. Folia radicalia 2—5 v. compluria, sat magna, exteriora minora obovata v. elliptica, rotundato-obtusa v. acutiuscula, reliqua oblonga v. oblongo-lanceolata v. lanceolata, acutiuscula v. longe acuminata acuta, omnia in petiolum \pm anguste alatum basi late vaginantem sensim angustata, + grosse serrato-dentata, saepe basin versus 1—2 dentibus longis antrorsum versis haud raro in petiolum descendentibus munita, lutescenti-viridia glaucescentia, utrimque modice breviterque pilosa v. supra + glabra, in margine nervoque dorsali et in petiolo laxo subvillosa, sat mollia; caulina 2—3 remota sensim decrescentia radicalibus similia sed breviter lateque alato-petiolata, superiora anguste v. lineari-lanceolata et subintegerrima. Inflorescentia altifurcata \pm indeterminata 3—12 cephalata, acladio 2—12 (—20 cm) longo, ramis 1—3 (—4) longis valde remotis oblique erectis v. \pm patentibus gracilibus monocephalis v. simpliciter ramulosis, imo saepe e caulis basi orto, interdum caules laterales evoluti. Involucrum 12—16 mm longum semiglobosum v. ventricosoglobosum, initio saepe subturbinatum. Squamae subangustae v. sublatiusculae longe acuminatae acutissimae atro-virides, in margine \pm albofloccosae, pilis albis basi obscuris sat dense pilosae subglandulosae. Pedunculi albidocani subpilosi disperse glandulosi, ad 6 bracteis subulatis obsiti. Flocci deorsum deminuti, usque ad caulis medium descendentes. Ligulae aureoluteae apice glabrae, stylis denique obscuris. Achaenia brunneo-atra.

Formulae *pulchriforme*—*bifidum* respondens.

Vorarlbergia: Prope Stuben ad pedem iugi Arlberg (J. Murr). — Flor. initio Aug.

Variat: α) *genuinum* Zahn l. c.; acladio longo; foliis serrato-dentatis, basi tantum dentibus maioribus munitis; capitulis paucis.

β) *persilvaticum* Murr l. c.; acladio breviori (interdum 1—2 cm tantum longo); foliis grosse longeque dentatis, dentibus in petiolum descendentibus; capitulis numerosioribus.

Exsiccata: Zahn, Hieraciotheca Europ. no. 287.

Tab. 195. *H. Richenii* Murr (e loco class., leg. Murr). 1. Apex ligularum. 2. Squama. 3. Pedunculus sub involuero.

110. Hieracium Neyraeanum Arv.-T. = *prenanthoides*—*subspeciosum* Zahn; A.-T., Notes pl. Alpes, suppl. I (1883) p. 30; Hier. Alp. franç. (1888) p. 20; Zahn, Hier. d. Schw. p. 449; *H. politum* Reverchon exs., non Fr. Huc pertinet *H. prenanthomorphum* N. P. II p. 163.

Caulis 40—55 cm altus subtenuis erectus saepe subflexuosus, striatus, supra medium

± floccosus epilosus, infra medium plerumque magis magisque pilosus, phyllopodus v. hypophyllopodus. Folia rosularia saepe ad 6 evoluta, oblongo-lanceolata v. lanceolata, breviter v. ± longe petiolata, exteriora saepe oblongo-spathulata obtusaque, reliqua utrinque longe attenuata acuta, denticulata v. subintegerrima, rarius ± dentata, dentibus apice glanduliformibus, subtenuia et ± papyracea, dilute viridia subglaucescentia, supra glabra, in margine nervoque dorsali modice sat denseve pilosa (1—4 mm) vel pariter ac superiora parcepilosa v. ± glabra; caulina 3—5 (—8) lanceolata, sensim v. subcito decrescentia, inferiora longe attenuata sessilia parum amplexicaulia, sequentia brevius angustata fere subpanduriformia, summa lineari-lanceolata longe acuminata. Inflorescentia laxissime paniculata, interdum = indeterminata, acladio 2,5—4,5 cm longo, ramis 3—7 mono- vel ad 3-cephalis; capitula 3—10 (—18). Involucrum (9—) 10—11 —12) mm longum ovato-cylindricum denique latius, squamis angustis v. latiusculis obtusis subatris modice v. dense floccosis, disperse v. mediocriter et subtenuiter glandulosis, disperse pilosis (1 mm), exterioribus acutiusculis, interioribus subviridi-marginatis. Pedunculi tenues, 3—7 bracteati, cani, apice minute subglandulosi sparsim pilosi v. epilosi. Flores saturate lutei, ligulae apice plerumque breviter ciliatae, stylis obscuris. Achaenia castanea v. subatra.

Delphinatus, Pedemontium. — Flor. Iulio, Aug.

1. Squamae late tomentoso-marginatae, pedunculi apice tantum floccosae.

Subspecies **prenanthomorphum** N. P. l. c.: *prenanthoides-glaucopsis* N. P. l. c.: *H. chondrilloides* b) *elatum* A.-T. in sched. Habitu *H. glaucopsidis*, sed folia caulina 7—8; inflorescentia 4—18 cephalia, ramis simpliciter (v. dupliciter) ramulosis; involucrum 11—12 mm longum disperse minuteque glandulosum, squamis latis munitum. Folia caulina inferiora pariter ac caulis basis subpilosa.

Exsiccata: Soc. franco-hélv. no. 636 [Lautaret (Pellat)].

Hab. Delphinatus: in iugo Lautaret (id.), Le Monétier de Briançon (Loret).

1* Squamae leviter floccosae, anguste floccoso-marginatae, pedunculi et caulomata superne ± floccosa.

Subspecies **Neyraeanum** A.-T. l. c. = *prenanthoides-politum* (Arveti) Zahn. Caulis usque ad basin epilosus, 3—8 (—12) foliatus. Folia tantum denticulata, superiora epilosa, inferiora ± disperse (praecipue basin versus) breviterque ciliata. Capitula plerumque 3—6 tantum evoluta, rami inferiores saepissime aborti.

Exsiccata: F. Schultz. Herb. norm. nov. ser. no. 2458; Soc. franco-hélv. no. 631; Arv.-T. et Gaut., Hieracioth. Gall. no. 127.

Hab. Delphinatus. Htes-Alpes: Lautaret, p. e. Pied du Col; Briançon: Col de l'Echauda; Embrun (A.-T.).

Tab. 196. *H. Neyraeanum* A.-T. ssp. *Neyraeanum* A.-T. („Pied du Col“ ad iugum Lautaret, leg. A. et C. Touton). 1. Apex ligularum. 2. Pedunculus sub involucri. 3. Squama.

Subspecies **grausonicum** Besse et Zahn, Hier. d. Schw. (1906) p. 450 = *prenanthoides-inclinatum* Zahn l. c. Caulis supra medium disperse pilosus, foliis 4—5 remotis obsitis. Folia denticulata v. dentata, in margine ± ciliata, caulina inferiora radicaliaque in margine modice pilosa (2 mm). Capitula 6—18.

Flora Valdostana: Val Grauson: Bergerie d'Eclosion 1900 m (Besse), supra Lillaz 1600 m et infra alpem Chavanis (Wilczek), inter Cogne et iugum Col de St. Marcel (id.).

Tab. 197. *H. Neyracanum* A.-T. ssp. *grausonicum* Zahn (prope Bergerie d'Ecloson leg. Besse). 1. Squama. 2. Pedunculus sub involucrio.

111. *Hieracium subelongatum* N. P. = *valdepilosum*—*silvaticum* Zahn. — N. P., Hier. Mitteleurop. II (1886—1889) p. 255; *H. elongatum*—*silvaticum* N. P., l. c.; *H. valdepilos.* — *silvatic.* Zahn, in Koch Syn. (1901) p. 1873; Hierac. d. Schw. (1906) p. 451.

Caulis 30—50 cm altus subtenuis v. gracilis v. subcrassiusculus, modice v. subdense pilosus, phyllopodus. Folia rosularia plerumque pauca, obovata v. oblongo-spathulata v. lanceolata, exteriora saepe obtusa, omnia breviter v. longe petiolata, dilute v. saturate viridia, saepe subglaucescentia, tenuia v. subrigidiuscula, denticulata v. ± grosse dentata, in margine nervoque dorsali semper ± dense pilosa, in parte aversa minus pilosa, supra haud raro glabrescentia; caulina 2—6 sensim vel ± cito decrescentia, oblongo- v. ovato-lanceolata, inferiora breviter petiolata v. basi angustata subpetiolata, media summaque basi angustata sessilia v. basi lata rotundata v. cordato-ovata sessilia et ± amplexicaulia, reliquis characteribus radicalibus similia. Inflorescentia furcata v. laxa paniculata ± indeterminata, acladio 1—6 (—10) cm longo, ramis 1 v. paucis (rarius ad 7) monocephalis v. simpliciter ramulosis. Capitula 2—10 (—20), involucrium parvum v. submagnum, habitu ut in *H. silvatico* v. ut in *H. valdepiloso*, 9—12 (—17) mm longum, squamis latiusculis v. angustis, acuminatis obtusiusculis v. acutis, exterioribus plerumque angustioribus. Pili in involucrio submodice numerosi brevesque vel ± densi et longiores, in pedunculis dispersi v. modice numerosi. Glandulae in involucrio pedunculisque subnumerosae v. subdispersae, rarius tantum sparsae. Flocci involucri modice numerosi, pedunculi ± canotomentosi, caulis saepe usque infra medium ± floccosus. Bractee paucae v. complures, imae interdum subfoliolaceae. Flores varie lutei, ligulae apice ± ciliatae, stylus dilutus v. obscurus, achaenia dilute v. obscure brunnea v. subatra.

In alpinis Delphinatus, Sabaudiae, Pedemontii, Helvetiae, Vorarlbergiae, Tiroliae, Carinthiae, Carniae usque ad Goritiam, Bosniae. — Flor. Iul., Aug.

Ab *H. valdepiloso* differt: caule phyllopodo plerumque apice tantum ramoso, foliis caulinis minus numerosis saepe magis cito decrescentibus, capitulis minoribus, pilis minus numerosis, glandulis numerosioribus.

H. porrectum Fr. subspeciebus *H. subelongati* valde affine est. Postero tempore *H. subelongati* formae forsitan melius sub nomine colectivo „*porrectum* Fr.“ coniungendae erunt.

Dispositio gregum:

- a) *Subelongatum* Zahn. *H. valdepiloso* magis affine; involucrio crasso 11—13 (—17) mm longo, inflorescentia plerumque altefurcata, capitulis parum numerosis disperse glandulosis sat dense pilosis, pedunculis subglandulosis. — Ssp. *alfenzinum* Evers, *subelongatum* N. P., *Wilczekianum* A.-T., *adenodontum* Zahn.
- b) *Pseudosilsinum* Zahn. *H. silvatico* magis affine, involucri subparvis v. mediocribus 9—11 mm longis, inflorescentia laxa paniculata pleiocephala, pilis minus numerosis brevioribusque, glandulis in involucrio pedunculisque subdisperse v. modice numerosis. — Ssp. *pseudosilsinum* Zahn, *sertigense* Zahn, *bagnense* Zahn, *muerrense* Zahn, *subdoronicefolium* Zahn.

a. *Subelongatum* Zahn.

Subspecies *alfenzinum* Evers (1883 in sched., Österr. bot. Zeitschrift. (1893) p. 425; Zahn, in Koch Syn. (1901) p. 1873; Hierac. d. Schw. (1906) p. 612; *H. dentatum*—*vulgatum* Evers in sched. Caulis 30—50 cm, gracilis v. crassiusculus, sat dense pilosus (3—5 mm), usque ad basin floccosus. Folia rosularia 2—5, late lanceolata acuta, in petiolum ± late

alatum sensim angustata, \pm grosse serrato-dentata, dentibus triangularibus prominentibus. saturate viridia glaucescentia; caulina (2—) 3—6 sensim decrescentia, saepe etiam valde grosse dentata, inferiora radicalibus similia, reliqua late v. ovato-lanceolata, basi + cuneata v. rotundata sessilia et saepe subamplexicaulia, superiora in nervo dorsali subfloccosa. Acladium ad 10 cm longum, rami 0—3 crassiusculi, 1 (—2) cephalis, capitula 1—5, squamae subangustae acutissimae atrovirides, pariter ac pedunculi cani pilis dilutis basi obscuris subvillosae et sparsim glandulosae, in margine tantum sparsim floccosae. Stylus obscurus.

Vorarlbergia: Ad torrentem Alfenz pr. Stuben in iugo Arlberg 1400 m (Evers), ad torrentem supra Rauz (Murr); St. Rochus versus Sareiser Joch (Richen, Murr).

Exsiccata: Zahn, Hieracioth. Europ. 285.

Tab. 198. *H. subelongatum* N. P. ssp. *alfenzinum* Evers (infra viam „Flexenstrasser“ leg. J. Murr). 1. Squama. 2. Pedunculus sub involucrio.

Subspecies **Wilczekianum** A.-T. in sched. et in Bull. herb. Boiss. (1897) p. 732; Zahn, Hier. d. Schw. (1906) p. 453; *H. Salaevense* var. *Mureti* A.-T. in sched. Caulis 30—40 cm altus disperse v. modice et molliter pilosus (1—2 mm), supra medium \pm floccosus, \pm furcato-ramosus, acladio 3,5—12 cm longo, ramis 2—3 (—4) remotis longis 1—3 cephalis oblique erectis; capitula 2—7. Folia rosularia pauca v. numerosa, petiolata, obovata v. oblongo-spathulata, obtusa v. breviter acuta, cito sensimve in petiolum attenuata; caulina remota, elliptico- v. oblongo-lanceolata, basi cuneata sessilia, superiora saepe anguste lanceolata, omnia dilute viridia saepe subglaucescentia, utrimque subpilosa, in margine nervoque dorsali et in petiolo densius pilosa (1—2,5 mm), irregulariter sinuato-dentata v. denticulata, haud raro 2—3 dentibus maioribus infra medium serrato-dentata. Involucrum 10—12 mm longum ovatum, denique depressum, squamis e basi sublatiuscula acuminatis acutis et acutissimis, subatris, praecipue in margine subfloccosis, sat dense pilosis (1,5—2 mm), disperse glandulosis. Pedunculi albidocani, modice breviterque pilosi, superne glandulis dispersis obsiti. Stylus subobscurus; achaenia brunneo-atra.

Helvetia: Ormonts: Arpille 2100 m (Wilczek), Creux de Champ (Zahn); au Nombriex supra Le Levanchy (Favrat), Vallon de Nant (Wilczek), Canfin (Muret); ad limites Vaudensi-Friburgenses: Le Savigny 1700 m (Wilczek); Sabaudia: Rochers des Degrés de Platé pr. Sixt (Briquet).

Tab. 201. *H. subelongatum* N. P. ssp. *Wilczekianum* A.-T. (in circo giganteo rupium m. Diablerets, „Creux de Champ“ dicto, legi). 1. Squama. 2. Pedunculus sub involucrio.

b. *Pseudosilsinum* Zahn.

Subspecies **pseudosilsinum** Zahn, in Schinz et Kell., Fl. d. Schw. ed. 2 II (1905) p. 327 et in Hier. d. Schw. (1906) p. 455; *H. silsinum* Zahn, in Koch Syn. (1901) p. 1874 p. p.; *H. laetevirens* Zahn, in Jaquet, Contrib. fl. fribourg. (Mém. soc. frib., vol. I fasc. I 1901) p. 7; nec Sommier-Levier. Caulis 20—35 cm altus, mediocriter molliterque pilosus, fere usque ad basin subfloccosus, gracilis v. tenuis, altefurcato- 2—12 cephalus, acladio 10—35 mm longo, ramis primariis 1—7, inferioribus remotis 1—6 cephalis. Folia rosularia 1—3, oblonga v. oblongo-lanceolata, rarius elliptica, breviter v. longissime petiolata, longe in petiolum angustata, breviter v. sublonge acuminata, exteriora saepe obtusiuscula; caulina 2—4 (—5) subcito decrescentia, inferiora \pm longe attenuata subpetiolata, media basi paulum attenuata, superiora basi lata sessilia, omnia dilute viridia, utrimque submodice breviterque pilosa (1 mm), in margine nervoque dorsali et in petiolo densius pilosa (1—3 mm), denticulata v. dentibus grossis

apice glanduliformibus munita, in nervo dorsali effloccosa. Involucrum 9—10 mm longum denique late depressum, squamis angustis acuminatis obtusiusculis v. acutis, modice pilosis, subglandulosis subfloccosis, in margine dense floccosis; pedunculi subglandulosi subpilosi canotomentosi. Pili in involucrio pedunculisque basi atri. Stylus obscurus; achaenia brunneo-atra.

Helvetia. In alpidibus Bernensibus: Niederhorn pr. Boltigen (Zahn), Nessli et inter Luchernalp et Reidigalp (Maurer), in valde Ueschinen pr. Kandersteg (A. et C. Touton); in alpidibus *Friburgensibus*: Neuschels et Kühboden supra Jaun, Les Merlas, Oussannaz (Jaquet).

Verosimiliter formulae *valdepilosum*-(*bifidum-silvaticum*) respondens.

Variat: 1) normale Zahn; robustius, foliis caulinis basin versus dentibus grossis apice longe glanduliformibus munitis. — Neuschels, Ueschinen.

2) *subdentatum* Zahn; debile, foliis denticulatis v. breviter dentatis. — Niederhorn.

Tab. 199. *H. subelongatum* N. P. ssp. *pseudosilvaticum* Zahn (inter Reidigalp et Luchernalp legi). 1. Squama. 2. Pedunculus sub involucrio.

Subspecies *sertigense* Zahn, Hier. d. Schw. (1906) p. 455. *H. pseudosilvaticum* satis affine, sed involucrum 12—13 mm longum, squamis e basi latiuscula acuminatis apice barbulatis, omnibus acutis, interioribus acutissimis, atris, in margine tantum subfloccosis, modice obscureque pilosis glandulosisque, pilis longis basi atris; pedunculi consimiles cano-farinacei; stylus obscurus.

Helvetia. In valle Sertig pr. Davos, ad occidentem loci „Hinter den Ecken“ dicti, 1920 m, in consortio *H. valdepilosi* ssp. *oligophylli* legi. Habitu *H. oligophyllo* subsimile, sed foliis radicalibus exterioribus oblongo-spathulatis ± obtusis saepe grosse dentatis et inflorescentia *H. silvaticum* in mentem mox revocans. Folia mollia sublutescenti-viridia.

Tab. 200. *H. subelongatum* N. P. ssp. *sertigense* Zahn (e loco classico). 1. Squama. 2. Pedunculus sub involucrio.

112. Hieracium iurassiciforme Murr = **valdepilosum—bifidum** Zahn. — Murr, apud Zahn, in Koch Syn. (1901) p. 1894 et in Hierac. d. Schweiz (1906) p. 457; *H. intybellifolium* Briquet, Bull. soc. Murith. fasc. XXVIII (1900) p. 31 et in Nouv. liste Eperv., Ann. Jard. bot. Genève (1901) p. 164; nec A.-T., Bull. herb. Boiss. V (1897) p. 735.

Caulis 30—50 cm altus gracilis saepe subascendens et subflexuosus, phyllopodus, saepe fere ad basin usque floccosus, disperse modiceve pilosus, 0,5—1,5 mm, basi (saepe violacea) sat dense pilosus. Folia rosularia ad 5, exteriora minora elliptico-spathulata ± obtusaque, interiora submagna oblongo-lanceolata acutiuscula v. acuta, exteriora cito, interiora sensim in petiolum ± alatum angustata, caulina ad 5 subcito decrescentia, oblonga v. elliptico-lanceolata, inferiora basin versus attenuata, media basi breviter cuneata v. basi angustata sed rotundata sessilia, superiora basi saepe lata rotundata vix amplexicaulia, omnia ± glaucescenti- et saturate viridia v. dilute sublutescenti-viridia, supra parcepilosa v. caulina ± epilosa, subtus disperse pilosa, in margine nervoque dorsali semper densius longiusque pilosa, denticulata v. plerumque irregulariter grosseque serrato-dentata (*H. bifidi* dentes in mentem revocantia), caulina saepe in nervo dorsali ± floccosa. Inflorescentia laxa paniculata, 3—10 (v. pleio-) cephalis, acladio 5—25 (—50) mm longo, ramis paucis v. ad 5, infimis remotis, 1—3 cephalis; involucrum (9—) 10—12 mm longum ovatum denique latius, squamis subangustis acutiusculis v. acutis, subatris, in dorso modice v. sat dense floccosis, in margine ± albotomentosis, modice v. sat dense pilosis (1—2 mm), subsparsim glandulosis, pedunculi

ramique et caulis superne) cano-farinacei v. albotomentosi, pedunculi submodice pilosi, superne sparsim glandulosi. Bractee 2—3 subulatae, in squamis exterioribus angustis transeuntes. Flores plerumque aureolutei, ligulis apice subglabris v. papillosis, stylus \pm obscurus, achaenia brunnea 3—4 mm longa.

Hab. in alpinis Lemnensibus Sabaudiae et in Vorarlbergia. — Flor. Iul., Aug.

1. Squamae obtusae v. interiores acutae, interiores viridi-marginatae apice saepe obscuriores; folia glaucescentia gramineo-viridia.

Subspecies **iurassiciforme** Murr l. c. Folia valde irregulariter grosseque dentata brevissime subpilosa. Caulis ad 60 cm altus subpilosus, capitulis 4—10 (—18), involucris modice tantum et breviter pilosis. — Inflorescentia fere ut in *H. bifido*, folia caulina ut in *H. subelongato*, c. 3—4 evoluta, inferiora et radicalia latissime et abrupte alata.

Ad torrentem Alfenz pr. Stuben et supra Rauz in iugo Arlberg Vorarlbergiae (J. Murr).

Tab. 204. *H. iurassiciforme* Murr ssp. *iurassiciforme* Murr (e loco classico, leg. Murr). 1. Squama. 2. Pedunculus sub involucrio.

Subspecies **walfagehrensense** Murr, in 44. Jahresber. d. Bregenzer Museums pro 1906 (1908) p. 45. Folia caulina 1—2, radicalia dilutius viridia, interdum subviolaceo-colorata, molliter longiusque subpilosa. Capitula minus numerosa, acladium ad 5 cm longum, squamae acutiores modice v. subdisperse pilosae. — Habitu *H. bifido* magis affine quam ssp. *iurassiciforme*.

Tab. 202. *H. iurassiciforme* Murr ssp. *walfagehrensense* Murr (inter Rauz et Walfagehr in iugo Arlberg tantum in consortio ssp. *iurassiciformis* ab auctore detectum). 1. 2. Squamae. 3. Pedunculus sub involucrio.

1* Squamae longe acuminatae acutiusculae v. acutae, folia dilute viridia.

Subspecies **grandimontis** Zahn, Hier. d. Schw. (1906) p. 458; *H. intybellifolium* Briquet et A. T. p. p. l. c.; nec Bull. herb. Boiss. (1897) p. 735. Caulis 30—45 cm, capitulis 2—10. Folia dentata, subtus et praecipue in margine nervoque dorsali subdense pilosa, petiolo villosa (3 mm). Involucrium 11—13 mm longum sat dense diluteque villosum. Pedunculi albo-farinacei. — Inter 17—2100 m.

Variat: 1) *normale* Zahn, Hier. d. Schw. p. 458, foliis \pm grosse dentatis. — Helvetia austro-occid.: Inter m. Grammont et Les Jumelles (Briquet, Zahn); Sabaudia: Col de Savan, Pointe de Vésine, Pte de Chavache (Briquet).

2) *denticulatum* A.-T., in Briquet, Nouv. liste Eperv., Ann. Jard. bot. Genève (1901) p. 164, foliis denticulatis v. glanduloso-dentatis. — Grammont (Briquet).

Tab. 203. *H. iurassiciforme* Murr ssp. *grandimontis* Zahn (in iugo inter m. Grammont et Les Jumelles legi). 1. Squama. 2. Pedunculus sub involucrio.

113. Hieracium daronicifolium Arv.-Touv. = **cydoniifolium—silvaticum** Zahn. — A.-T., Bull. soc. dauph. II (1875) p. 45, exsicc. 470; Hier. Alp. franç. p. 98; *H. denticulatum* Reuter exs. 1866 apud A.-T., Spicileg. p. 33, nec Sm.; *H. iurassicum* Gremli, Neue Beitr. p. 18 p. p.; *H. cydoniifolium—silvaticum* Zahn, in Koch Syn. (1901) p. 1875; Hier. d. Schw. (1906) p. 459.

Caulis 20—60 cm altus gracilis v. tenuis erectus parum flexuosus, phyllopodus v. hypophyllopodus, \pm intense striatus, subdense pilosus, saepe fere usque ad basin floccosus, superne plerumque subglandulosus. Folia rosularia nulla v. 2—6 evoluta petiolata, exteriora oblonga v. ovata, cito in petiolum angustata, interiora sensim in petiolum breviora v. longiora

alatum angustata, elliptica, oblongo v. obovato-lanceolata, obtusa v. acuta mucronata, subintegerrima, denticulata v. \pm remote dentata, saturate v. dilute viridia glaucescentia, subtus pallidiora, \pm indistincte reticulata, saepe \pm rubro-colorata, subrigida v. submolli; caulina 4—6 subremota subsensim decrescentia, radicalibus similia, inferiora basin versus angustata fere late alato-subpetiolata, superiora basi lata v. subcordata semiamplexicaulia, omnia utrimque modice v. sat dense pilosa, summa interdum in nervo dorsali subfloccosa. Inflorescentia laxa paniculata saepe \pm squarrosa, acladio 10—25 (—30) mm longo, ramis 2—6 inferioribus remotis oblique v. arcuato-erectis gracilibus v. tenuibus plerumque 1- (—2-) pliciter ramulosis. Capitula pauca v. ad 20, involucrum 10—12 mm longum denique ovatum basi rotundatum v. truncatum, squamis angustis v. sublatiusculis obtusiusculis v. acutiusculis, interioribus saepe \pm dilute marginatis, exterioribus obscuris, sat dense pilosis (1—2 mm), modice v. subdense glandulosis, modice v. (in margine) sat dense floccosis. Pedunculi consimiles, can. caulomata subglandulosa. Flores \pm dilute lutei, ligulis apice ciliatis, stylis obscuris; achaenia dilute v. obscure brunnea.

Delphinatus, Sabaudia, Helvetia occidentalis, Carinthia. — Flor. Iulio, Aug.

In Hierac. d. Schweiz l. c. p. 460 tres subspecies descripsi: Ssp. *arpillense* Zahn, ssp. *doronicifolium* A.-T. et ssp. *dermophyllum* A.-T. et Briq.

Subspecies **doronicifolium** A.-T. l. c. Phyllopodum ad 40 cm altum, ubique subdense pilosum. Folia caulina 4—6, inferiora basin versus attenuata panduriformia, superiora basi aequilata sessilia et \pm amplexicaulia, omnia \pm lutescenti-viridia leviter denticulata. Capitula ad 12. Squamae angustae obtusiusculae v. acutae, interiores subviridi-marginatae, omnes pariter ac caulomata subdense pilosae glandulosaeque, in margine praesertim subdense floccosae.

Hab. Delphinatus: Mont Seneppe près La Mure 12—1300 m (Sauze), Lautaret: Villard d'Arène (A.-T.); Sabaudia: Dent d'Oche (Favrat); Helvetia: Gr. St.-Bernhard: Les Combes, Pradaz (Besse), Nessli pr. Reidenbach in valle Simmental (Maurer), Creux de Maischüpfen (Jaquet), Eisboden ad pedem m. Wetterhorn (Christener), Tornettaz in Ormonts (Steiger).

Exsiccata: Soc. dauph. no. 470; soc. franco-hélv. 304 (forma *calvescens*, foliis sparsim pilosis, dilute glaucescenti-viridibus, e iugo Col Vert prope Villard-de-Lans, Jsère, leg. Neyra).

Tab. 205 *H. doronicifolium* A.-T. ssp. *doronicifolium* A.-T. (Villard-d'Arène, leg. Neyra). 1. Apex ligularum. 2. Pedunculus sub involucro. 3. Squama.

114. Hieracium iuranum Fries — **prenanthoides**—**silvaticum** Zahn. — Fries, Symb. 1848) p. 129; Epicr. (1862) p. 104; Christener, Hier. d. Schw. p. 16; A.-T., Hier. Alp. franç. p. 91; Zahn, in Koch Syn. (1901) p. 1877; Hierac. d. Schw. (1906) p. 461; nec Rapin, Fl. Vaud. ed. I p. 213 (1842) [= *H. vogesiacum* Moug.]; nec G. Schneider, Hierac. Westsudet. (1893) p. 21; *H. prenanthoides* var. *iuranum* Gaud., Fl. Helv. V p. 114; *H. elatum* Fr., Symb. p. 167 p. p.; Grenier, in Gr. Godr., Fl. France 2 II p. 380; Reuter in sched.; non Fries, Epicr. p. 121; *H. cydoniaefolium* Schl. exsicc. p. p.; Froel., in DC. Prodr. VII p. 212; *H. abietinum* Froel. in sched.!, *H. denticulatum* Sm., Engl. Bot. tab. 2122; Engl. Flora III p. 368; Griseb., Comment. p. 32; Reichb., Comp. tab. 152; Sendtner, in Flora (1854) p. 159; *H. jurassicum* Griseb., Comm. p. 32; Reichb., Comp. tab. 150 fig. 1; *H. prenanthoides* var. *paucifolium* Tausch in sched.!, *H. prenanthoides* Gaud. l. c. p. 113, 114 p. p.; *H. prenanthoides* var. *Laggeri* Rapin, apud Christener, Hierac. d. Schw. p. 19 et in sched.!

Aphyllopodium, *hypophyllopodium* v. *phyllopodium* Caulis 30—90 cm altus tenuis v. gracilis v. crassus, saepe \pm flexuosus, + intense striatus. Folia rosularia florendi tempore nulla, etiam folia caulina infima emarcida, vel rosularia emarcida, caulina inferiora florendi tempore virentia, vel pauca rosularia evoluta, elliptica v. oblonga v. lanceolata, in petiolum \pm longum v. longissimum cito v. \pm sensim angustata, raro \pm integerrima, plerumque \pm dentata v. grosse dentata, obtusiuscula v. acuta, \pm glaucescentia v. dilute v. saturate v. cano-viridia, subtus pallidiora et + distincte reticulata, interdum pariter ac caulis basis violaceo-colorata, \pm rigida v. mollia. Folia caulina 5—12 (—18) \pm sensim decrescentia, ima petiolata v. in petiolum late alatum cito sensimve angustata, media basi subangustata v. \pm panduriformia et + amplexicaulia, basi saepe auriculata, superiora basi lata v. \pm ovato-cordata sessilia amplexicaulia, omnia oblonga v. ovato-lanceolata, raro lanceolata, acuminata, + dentata, raro tantum denticulata. Inflorescentia \pm paniculata, \pm determinata v. indeterminata, saepe \pm squarrosa, vix suprafastigiata, plerumque polycephala, acladio (5—) 10—25 (—30) mm longo, ramis paucis v. numerosis et + remotis elongatis arcuato-squarrosis 1—2 (—3) pliciter ramulosis. Involucrum (8—) 9—10 (—11) mm longum, gracile v. crasse cylindrico-ovatum v. ovatum, basi rotundatum v. \pm truncatum. Squamae e basi sublatiuscula acuminatae v. angustae, obtusae v. acutiusculae, apice \pm barbulatae, atrae v. cinereae, interiores plerumque subdilutius (viridi-) marginatae. Bracteae 1—3 parvae. Pili in involucris caulomatibusque fere semper nulli, rarissime valde solitarii, in caule, in margine nervoque dorsali et in petiolo foliorum modice numerosi v. subdensi (0,5—2 mm), raro parci. Glandulae in involucris caulomatibusque densissimae, raro subnumerosae, in caule \pm profunde descendentes sed valde diminutae. Flocci involucris sparsi v. \pm densi, pedunculi modice v. canofloccosi, deorsum cito diminuti floccosi, caulis superne modice floccosus, deorsum cito effloccosus. Folia caulina superiora in nervo dorsali v. etiam in tota parte aversa parce v. modice floccosa, saepe omnino effloccosa. Flores dilute v. saturate lutei, stylus subater, dentes ligularum \pm ciliati, achaenia pallide v. obscure rubrobrunnea v. obscure brunnea, nunquam atra.

Pyrenaei, Iurassus, Alpes, Sudeti, Tatra, Carpathes, Aprutii, Peninsula Balcanica, Caucasus. — Flor. Iul., Aug.

Numerosae formae intermediae inter *H. prenanthoides* et *H. silvaticum* inventae sunt. Formae intermediae habitu *H. prenanthoidis* speciem intermediam *H. iuranum* Fr. sistunt; formae, quae formulae *prenanthoides* < *silvaticum* respondent, ad speciem intermediam *H. integrifolium* Lange pertinent.

In Hierac. d. Schweiz (1906) p. 462 seq. quinque greges et subspecies numerosae a me distinctae et descriptae sunt. Hoc loco subspecies nonnullae notabiles tantum tractantur.

Subspecies **subperfoliatum** A.-T., Notes pl. Alpes (1884) p. 12; Hier. Alp. franç. p. 92; Zahn, Hier. d. Schw. p. 463; *H. pseudojuranum* var. *subprenanthoides* A.-T. in sched.; *H. clatum* Gren. l. c. p. max. p.; *H. prenanthoides* var. *II iuranum* Gaud. l. c.; *H. molle* Lagg. in sched. *Aphyllopodium*. Folia caulina numerosa (ad 16) permagna, bis v. ter longiora quam lata, late ovato-lanceolata acuminata, media interdum cito in basin late panduriformem angustata v. basi late ovata v. cordata et auriculata amplexicaulia, superiora cordato-ovata amplexicaulia, omnia tenuia molliaque, subintegerrima, breviter subpilosa (1 mm), supra parcepilosa subglaucescentia, subtus albo-glaucescentia, effloccosa. Involucrum 8—10 mm longum subatrum v. cinereum, epilosum. Squamae subangustae v. angustae, obtusae v. acutiusculae, interiores

saepe distincte diluteque marginatae. Glandulae numerosissimae in caulem profunde descendentes. Achaenia brunnea.

Variat: $\alphagenuinum Zahn [a) *verum* Zahn], Hier. d. Schw. p. 463; *H. praeelatum* A.-T., Soc. franco-helv. (1897) no. 768! Involucro 9 mm longo, squamis subangustis subatris pariter ac pedunculi et caulomata superne densissime obscureque glandulosis; inflorescentia subindeterminata, ramis inferioribus patentibus longis substrictis; foliis 6—8 cm longis, 3—4 cm latis. — Delphinatus, Sabaudia, Pedemontium, Aprutii, Helvetia occidentalis, Iurassus, multis alpium calcareum locis.$

Exsiccata: Soc. dauph. 5635; Soc. franco-helv. 766; Magnier, Fl. selecta 1995; Porta et Rigo, It. Ital. II no. 30.

Tab. 206. *H. iuranum* Fr. ssp. *subperfoliatum* A.-T. (in iugo Lautaret ad pedem glaciei Tabuchet Delphinatus leg. A. et C. Touton). 1. Squama. 2. Pedunculus sub involucro.

b) *subabruptum* Zahn, Hier. d. Schw. 464, foliis supra caulis medium cito decrescentibus, caule apice tantum ramoso ad 70 cm alto. — Helvetia: Grammont, Dent de Corjeon (Zahn). — Exsiccata: Zahn, Hieracioth. Europ. 288.

β) **tenuiglandulum** Zahn, in Schinz et Kell., Fl. d. Schw. ed. 2 II (1905) p. 329; Hier. d. Schw. p. 464, foliis caulinis brevissime denticulatis tenuibus supra epilosis, involucris ovato-cylindricis saepe 7,5—8 mm tantum longis, squamis angustis obscure cinereis pariter ac pedunculi tenuissime diluteque glandulosis. — Helvetia: in alpiis supra Bex, Ormonts et in tractu calcareo inter Montbovon, Jaun et Bulle.

γ) **asclepioides** A.-T. et Briq., Ann. Jard. bot. Genève (1899) p. 144, foliis \pm tenuibus, supra saturate gramineo-viridibus epilosis v. disperse brevissimeque rigidipilis, subtus glauco- et albedo-viridibus. — Helvetia: Les Plans supra Bex (Wilczek), Klusalp supra Reidenbach vallis Simmental (Zahn), Hohe Rhonen pr. Turicum (Brügger), in silva Brennwald pr. Unterschlecht in pago Glarus (Bernoulli), Val Piora in pago Ticinensi (Huguenin).

Subspecies **pseudoiuranum** A.-T., Hier. Alp. franç. (1888) p. 92. Caulis saepe crassiusculus ad 80 cm altus, inter folia subdense pilosus (1—2 mm), aphyllopodus v. hypophyllopodus, raro florendi tempore basi foliis subnullis virentibus obsitus. Folia caulina 10—18 permagna, 3—5 cm lata, ter v. ad 4,5 longiora quam lata, elliptico- v. oblongo-lanceolata, \pm acuminata acuta, media basin versus conspicue attenuata saepe anguste panduriformia, amplexicaulia, superiora basi lata, rarius subangustata amplexicaulia haud auriculata, omnia breviter dentata v. dentata, utrimque dentibus 3—5 varie magnis munita, effloccosa. Inflorescentia saepe subindeterminata, rami superiores \pm approximati tenues, pedunculi arcuato-squarrosi. Capitula numerosa v. numerosissima, involucrum parvum, 7—8 mm longum, pariter ac caulomata densissime glandulosa.

Variat: α) **genuinum** Zahn, Hier. d. Schw. p. 466; involucris pedunculisque densissime sublongeque glandulosis; foliis dilute lutescenti-viridibus, supra disperse breviterque (0,5 mm) pilosis.

1) normale Zahn l. c.; *H. prenanthoides* I *multiflorum* β) foliis integris Gaud. l. c. p. 113 et herb. l. p.; foliis tantum denticulatis subtus subcano-

viridibus. — Helvetia: Ormonts (A. et C. Touton), Allières (Jaquet); Delphinatus (A.-T.).

2) *sarretoides* A.-T. in sched., Zahn l. c.; foliis omnibus dentatis, inferioribus interdum dentibus maioribus munitis.

a) *verum* Zahn l. c.; nec *H. prenanthopsis* Murr, in Dörfler, Herb. norm. 4355; nec Murr et Zahn, in Koch Syn. (1901) p. 1878; involucri obscure canescenti, glandulis \pm dilutis. — Helvetia, Sabaudia, Iurassus.

b) *atriglandulum* Zahn l. c.; *H. sarretoides* A.-T. in sched.; involucri atro subeffloccoso, glandulis atris obtecto. — Helvetia: Eginental et Gerental pr. Oberwald, Melchtal pr. Binn (Chenevard, Zahn).

β) *leptadenium* Zahn, in Schinz et Kell., Fl. d. Schw. ed. 2 II (1905) p. 330; Hier. d. Schw. p. 466; foliis obscure viridibus tenuissimis mollissimis, inferioribus magnis longissime petiolatis irregulariter et breviter v. \pm grosse dentatis supra parcepilosis (0,5 mm) v. epilosis et \pm lucidis; involucris pedunculisque densissime sed tenuissime glandulosis. — Helvetia: In alpihus calcareis supra Bex, Ardon, Reidenbach, Wengen; Lötschental, Oberwald; Tavanasa in v. Vorderrheintal, Serneus. Vorarlbergia: in iugo Arlberg.

γ) *constrictiforme* Zahn, Hier. d. Schw. p. 466, characteribus ut in var. β , sed involucris pedunculisque pilis nonnullis obsitis, foliis caulinis superioribus in nervo dorsali subfloccosis. — Helvetia: Wengen, Lötschental (Favrat).

δ) *subaligerum* Zahn l. c., caule usque ad basin longe ramoso, involucris obscure canis. — Helvetia: Bérissal (Bernoulli).

Tab. 207. *H. iuranum* Fr. ssp. *pseudoiuranum* A.-T. α) *genuinum* 1) *normale* Zahn („L'Urquy“ supra pagum Allières inter Montreux et Montbovon, leg. Jaquet). 1. Squama. 2. Pedunculus sub involucri.

Subspecies *prenanthopsis* Murr, in Doerfler, Herb. norm. no. 4355, et apud Zahn in Koch Syn. (1901) p. 1878; nec Zahn, Hierac. d. Schw. (1906) p. 469; *H. pseudoiuranum* α) *genuinum* Zahn 2) *sarretoides* A.-T. a) *verum* Zahn, Hier. d. Schw. p. 466 p. p. — *H. pseudoiurano* A.-T. valde simile; caule hypophyllopo v. aphyllopo ad 15 foliato, foliis omnibus dentatis subrigidiusculis supra plerumque glabrescentibus, inferioribus haud raro dentibus maioribus munitis, summis in nervo dorsali saepe subfloccosis, involucris saepe obscure canis, glandulis plerumque \pm dilutis. — Verosimiliter *lanceolatum* > *silvaticum*.

Helvetia: Bière (Jeanjaquet) et Creux-du-Van (Palézieux) Iurassi; versus Pannossière pr. Fionney (A. et C. Touton), Zermatt (Wolf) Goppisberg supra pag. Mörel (Bernoulli), inter Salquenen et Leukerbad (Wolf), Thyon (Wolf), Bérissal (Favrat), in v. Binn (Chenevard), inter Obergestelen et vallem Eginen (Zahn) Valesiae; Realp (Wolf); in alpih. Lemanensibus (Briquet); Italia sept.: in v. Pesio (Bicknell); Vorarlbergia: „Aelple“ pr. Dornbirn (Hedwig Winder), in iugo Arlberg supra Stuben (Hellweger et Murr), Tirolia: in pratis mont. supra Lechleiten (Murr); in v. Jaufental supra „Schluppess“ (id.).

Exsiccata: Doerfler, Herb. norm. 4355; Zahn, Hieracioth. Europ. 80.

Tab. 209. *H. iuranum* Fr. ssp. *prenanthopsis* Murr et Z. (e iugo Arlberg, leg. Murr). 1. Squama. 2. Pedunculus sub involucri. 3. Pars aversa cum nervo dorsali folii caulini superioris.

Subspecies **elegantissimum** Zahn, in Koch Syn. (1901) p. 1882; *H. iuranum* var. *coarctatum* f. *badiosperma* A.-T. in sched. herb. Huteriano. Hypophyllopodum v. aphyllopodum. Folia caulina ad 12, ima longe, sequentia breviter petiolata, sat magna, ad 4 cm lata, elliptico- v. oblongo-lanceolata, plerumque valde elongata, rarius breviora ovato-lanceolata, media basin versus angustius latiusve attenuata, amplexicaulia, summa basi lata v. \pm cordata sessilia, subtus \pm dense floccosa, media subtus disperse, inferiora in nervo dorsali modice floccosa, omnia supra subglabra saturate viridia, serrato-pluridentata. Involucrum 8—9 mm longum, squamis angustis sat dense floccosis epilosis. Inflorescentia arcuato-squarrosa, caulomata canofloccosa denseque glandulosa. Caulis superne tantum subfloccosus.

Variat: α) **genuinum** Zahn, Hier. d. Schw. p. 468 [a] *verum* Zahn], caule superne tantum ramoso. — Helvetia: Allières (Jaquet), Pacoteires supra Alesse (Besse), Oberwald (Zahn), Sils, Samaden (Touton), Puschlav; in alpe Prairolo (Brockmann); Tirolia: in iugo Jaufen pr. Sterzing (Huter).

b) *valderamosum* Zahn l. c., caule usque ad medium v. usque ad basin ramoso. — Christolais pr. Samaden (Candrian), Jaufen (Huter).

β) **praealpinum** A.-T. in sched.; Zahn, Hier. d. Schw. l. c.; caule phyllopodo foliis radicalibus lanceolatis v. oblongo-lanceolatis, caulinis 6—10 subcito decrescentibus radicalibus similibus, inflorescentia paniculato-oligocephala.

— Helvetia: Vallesia, Engadina, in pago Ticinensi; in alpinis Bavaricis,

Exsiccata: Doerfler, Herb. norm. no. 4357; Zahn, Hieracioth. Europ. no. 78 et 383 (var. β).

Tab. 208. *H. iuranum* Fr. ssp. *elegantissimum* Zahn α) **genuinum** a) *verum* Zahn (in valle Jaufental pr. [Vipitenum] Sterzing, leg. J. Murr). 1. Squama. 2. Pedunculus sub involuero.

Subspecies **pseudohemiplecum** Zahn, in Koch Syn. (1901) p. 1883, Hierac. d. Schw. (1906) p. 468. — Hypophyllopodum v. phyllopodum, foliis caulinis 5—9, inferioribus praegrandibus \pm alato-petiolatis, reliquis subcito decrescentibus, mediis \pm petiolatis v. basin versus angustatis subpetiolatis et subamplexicaulibus haud auritis, superioribus basi lata sessili semiamplexicauli, omnibus dentatis v. serrato- et saepe grosse dentatis, glaucescenti- et saturate viridibus, submolliibus v. subrigidiusculis saepe papyraceis, radicalibus abrupte in petiolum longum plerumque haud alatum contractis.

Variat: α) **vaudense** Zahn, in Koch Syn. p. 1883; *H. iuranum* Fr. p. p., quoad stationem „Trachy supra Bex“ in Epicrisis p. 104 commemoratam; *H. iuranum* et *cydoniaefolium* Lager in sched.; foliis inferioribus ovato-oblongis (11:5,5 cm), basi truncatis v. breviter contractis, caulinis ad 9 cito in partem basalem quasi latissime alatum angustatis, superioribus basi lata sessili vix subamplexicaulibus, omnibus magnis tenuibus grosse dentatis supra glabris; involucris ovato-cylindricis parvis.

1) normale Zahn, Hier. d. Schw. l. c. — Helvetia: Trachy supra Bex (Lager); Col de la Croix et Léchères in Ormonts (A. et C. Touton).

2) floccosum Zahn l. c., involucris pedunculisque densissime floccosis. — Col de la Croix (Favrat).

β) **ramosofastigiatum** A.-T. apud Zahn, in Koch Syn. (1901) p. 1883; caule usque ad basin ramoso, hypophyllopodo, ramis \pm erectis; foliis caulinis magnis grosse dentatis supra disperse pilosis (0,5 mm), imis subsensim in

petiolum angustatis. — Helvetia: Taney (Zahn), Fionney (A. et C. Touton) Varvalannaz et Bois de Minutz sur le Gros-Mont 1600 m (Jaquet); Reidenbach in v. Simmental (Maurer); Weisstannental (Kaeser). Tirolia: Ahrntal (Treffer). — Forma foliis denticulatis in iugo Sareiser Joch Vorarlbergiae (Zahn).

Tab. 210. *H. iuranum* Fr. ssp. *pseudohemiplegum* β *vaudense* Zahn (in valle Gryonnental supra Frenières legi). 1. Squama. 2. Pedunculus sub involucrio.

Subspecies **decreseentifolium** Murr, apud Zahn, in Hierac. d. Schw. (1906) p. 469. Phyllopodum v. hypophyllopodum; foliis radicalibus v. imis caulinis praegrandibus, sequentibus \pm cito decreseentibus basi angustata sessili vix subamplexicauli, caulinis 4—6 tantum evolutis \pm grosse dentatis. Reliqua ut in ssp. *pseudohemiplego*.

Helvetia: Pacoteires supra Alesse, Ardon 1400 m (Besse), Pont de Nant 1400 m (Bernoulli). — Tirolia: In v. Jaufental: ad septentriones viculi Schluppes (Murr).

Tab. 211. *H. iuranum* Fr. ssp. *decreseentifolium* Murr (e v. Jaufen leg. Murr). 1. Squama. 2. Pedunculus sub involucrio.

Subspecies **adenocalathium** Zahn, in Koch Syn. (1901) p. 1876; Hier. d. Schw. (1906) p. 474. Caulis 30—50 cm altus gracilis flexuosus sat dense pilosus (2 mm), hypophyllopodus, 4—12 (—18)-cephalus, aeladio ad 20 mm longo, ramis 2—3 (—4) tantum evolutis subremotis 1—2-pliciter ramulosis. Folia caulina 6—8 (—10), elliptico- v. oblongo-lanceolata, ima petiolata v. in basin late alata subpetioliformem cito angustata, sequentia basi subpanduriformi, summa basi lata sessilia, omnia subamplexicaulia mollia, utrimque subdense molliterque pilosa, supra dilute lutescenti-viridia, subtus albido-viridia, denticulata v. dentata. Inflorescentia laxa paniculato-squarrosa. Involucrum 10—11 mm longum, squamis latis obtusis atris modice v. subdense floccosis epilosis. Achaenia dilute rubro-brunnea.

Helvetia: Vingt-huit inter Gétroz et alpem Chanrion vallis Bagne (Wolf), Sandalp pr. Glarus (Thellung), in v. Sertig pr. Davos 1950 m (Zahn).

Tab. 212. *H. iuranum* Fr. ssp. *adenocalathium* Zahn (in v. Sertig legi). 1. Dentes ligularum. 2. Squama. 3. Pedunculus sub involucrio.

Subspecies **pseudalbinum** Uechtr., Result. Durchforsch. Schles., in Jahresb. Schles. Ges. (1884) p. 314; G. Schneid., Hierac. Westsudet. in „Das Riesengebirge in Wort u. Bild“ Heft 44 et 46 (1892) p. 67; Zahn, in Koch Syn. (1901) p. 1879 inter subspecies *H. iurani*. — Caulis (20—) 25—30 (—50) cm altus gracilis v. tenuis flexuosus vix striatus subglaber v. scabriusculus, basi rubro-coloratus v. pariter ac foliorum inferiorum petioli rubro-maculatus, in inferiore tertia parte tantum sparsim mediocriterve pilosus (1,5—2 mm), superne glandulis tenuibus sparsis v. mediocriter numerosis et interdum floccis dispersis obsitus. Folia dilute, subtus pallide viridia, siccitate saepe sublutescentia, subrigida, mediocriter, margine basin versus et praecipue in nervo dorsali petioleque \pm densius pilosa, pilis mollibus 0,5—1 mm, in petiolis ad 2 mm longis; omnia florendi tempore oblique erecta; radicalia interdum omnia emarcida, saepius 1—2 (—6) virentia elliptica v. oblonga, in petiolum tenuem obsolete v. haud alatum plerumque sublongum \pm angustata, subregulariter remoteque denticulata, obtusiuscula, brunnescenti-mucronulata; caulina (3—) 4—6 (—8) sensim decreseentia, inum semper minus quam radicalia, pariter ac saepe secundum oblongum v. late lanceolatum, in petiolum \pm longum distincte alatum angustatum, subaequaliter denticulatum acutum mucronatum; media late lanceolata in petiolum brevem alatum basi semiamplexicaulem angustata, basin

versus subdentata, subacuminata mucronata; summa ovato-lanceolata basi vix semiamplexicaulia longius acuminata acuta, denticulata v. integerrima. Inflorescentia subdeterminata paniculata 3—8 (—15) cephalis, acladio 10—15 mm longo, ramis 2—4 (—6) parum remotis. Involucrum (9—) 10 (—11) mm longum subcylindrico-ovatum epilosum dense glandulosum subfloccosum, squamis angustis obtusis v. nonnullis acutiusculis, apice subbarbulatis, exterioribus subatris partim laxis ± anguste viridi-marginatis, interioribus subviridibus dorso obscurioribus margine pallidis. Bractee 1—2 subobscurae parvae. Pedunculi subgraciles arcuato-erecti epilosi dense glandulosi apice modice v. dense-, deorsum subfloccosi. Ligulae aureolatae apice breviter ciliatae, stylus obscurus; achaenia rubro-, denique atrobrunnea.

In montibus Asciburgensibus [Riesengebirge] Silesiae endemum: Kiesberg 1300 m, in devexis infra m. Kleine Koppe, Riesengrund (Pax), Grosse Schneeegrube, Langer Grund (Fiek), Melzergrund (id.).

Tab. 213, fig. B. 3, 4. *H. iuratum* Fr. ssp. *pseudalbum* Uechtr. (in m. Kiesberg, leg. Sagorski). 3. Squama. 4. Pedunculus sub involucrio.

115. Hieracium integrifolium Lange = **prenanthoides** < **silvaticum** Zahn; Lange, Handb. danske Fl. ed. 1 I (1851) p. 456; in Fl. Dan. fasc. XLV p. 7, tab. 2661; Zahn, in Koch Syn. (1901) p. 1882; Hierac. d. Schw. (1906) p. 475; *H. murorum* var. C Vill., Hist. pl. Dauph. III p. 124; *H. vulgatum* var. *integrifolium* Fr., Symb. (1850) p. 117 ex part.¹⁾; *H. silvatic.* v. *integrifolium* Christener, Hier. d. Schw. p. 17 et in sched.!: *H. subalpinum* A.-T., Suppl. à Monogr. (1876) p. 23; Bull. Soc. dauph. (1880) p. 288; Hier. Alp. franç. (1888) p. 88; *H. danicum* Dahlst., Bidr. Syd. Sver. Hierac.-Fl. II (1893) p. 120; nec A.-T., Bull. herb. Boiss. (1897) p. 731; *H. silvicola* et *ellipticum* Jord. in sched.!

Caulis 30—70 cm altus ± pilosus (1—2,5 mm), superne subfloccosus glandulosusque, basi saepe violaceus, phyllopodus. Folia radicalia 3—6 plerumque longe petiolata, patula, ovalia v. ovato- v. elliptico-lanceolata, mediocriter magna v. praegrandia, obtusa v. acuminata, sensim v. abrupte in petiolum contracta v. basi rotundata v. truncata v. subcordata, subintegerrima v. ± grosse (praecipue basin versus) dentata, utrimque breviter rigidiusculeque ± pilosa, dilute lutescenti- v. saturate v. saepe cano-viridia, subtus ± glaucescenti- et albido-viridia, saepissime tenuia, papyracea, interdum subcolorata; caulina citissime decrescentia remotaque, 2—4 (—6) evoluta, raro magna, imum ± petiolatum, sequentia in petiolum ± late v. plerumque anguste alatum citissime subsensimve angustata, summa sessilia basi subamplexicaulia, interdum in nervo dorsali v. in tota parte aversa subfloccosa. Inflorescentia laxissime paniculata + indeterminata, ramis (inferioribus longis) erecto-patentibus v. squarrosis paucis v. compluribus 1—2 (—3) pliciter ramulosis, acladio 10—25 (—30) mm longo, capitulis paucis v. numerosis. Involucrum 8—10 mm longum ovatum v. ovato-cylindricum, squamis atris v. atro-viridibus subangustis v. angustis, modice v. subdense floccosis, dense glandulosis, saepissime

¹⁾ *H. vulgatum* var. *integrifolium* Fr. Symb. p. 117 complectit: 1) *H. vulgati* formam (cfr. Fries, Herb. norm XII no. 23), 2) plantam *Langeanam* a Friesio p. 118 citatam. Prima forma: *H. silvaticum* ssp. *integrifolium* Almq., Stud. Hierac. p. XVII, a cl. Dahlstedt (in Stenstr., Verm. Archierac. 1889 et in Dahlst., Bidr. Sydöst. Sver. Hierac.-Fl. II 1893 p. 118) *H. integratum*, secunda *Langeana* *H. danicum* l. c. p. 120 denominata erat. Sed nomen Langei, qui plantam suam bene descripsit et figuravit, conservare velim, quoniam Friesius l. c. et Froelichius in DC., Prodr. VII p. 214, varietates tantum *H. vulgati* seu *H. humili* nomine „*integrifolium*“ notaverint.

epilosis, interioribus + dilute marginatis. Pedunculi consimiles, + cani, 2—3 bracteis parvis obsiti. Flores plerumque saturate lutei, ligulis apice plerumque ciliatis, stylis obscuris; achaenia rubrobrunnea v. castanea, nunquam peratra. — Iul., Aug.

In Iurasso et in toto Alpium tractu Italiae, Galliae, Helvetiae, Austriae, Bavariae, in montibus Sudeticis et in Carpathium tractu; qsp. in Dania. — Pyrenaei.

Subspecies **crepidifolium** A.-T., Hierac. Alp. franç. (1888) p. 89. — Habitu *Crepidis paludosae*. Folia radicalia ovato-lanceolata v. oblongo-lanceolata, longe petiolata, cito sensimve in petiolum angustata, obtusa v. acuta; caulina 2—5, imum petiolatum v. in basin + late alatum v. subpanduriformem basi semiamplexicaulem angustatum, media basi aurita v. pariter ac superiora simpliciter sessilia subamplexicaulia, omnia + vel saepe grosse serrato-multidentata, dilute lutescenti-viridia, subtus albido-viridia, supra + modice, in margine nervoque dorsali et in petiolo dense pilosa (1—2,5 mm). Stylus subater. Involucra 9—10 mm longa.

α) **crepidifolium** A.-T.; ut supra.

- 1) subellipticum A.-T., Ann. Jard. bot. Genève (1901) p. 163; Zahn, Hier. d. Schw. (1906) p. 477; foliis rosularibus ellipticis vix grosse dentatis, caulinis in petiolum brevem late alatum basi semiamplexicaulem angustatis, irregulariter serrato-dentatis, summis sessilibus subamplexicaulibus. — In alpinis Lemanensibus: Pte de Lachau, Crête de Hautfleury (Briquet); Helvetia: in v. Sertig pr. Davos (Zahn).
- 2) axillare A.-T. in sched.; Zahn, in Schinz et Kell., Fl. d. Schw. ed. 2 II (1905) p. 332; caule iam e basi ramoso. — Helvetia: Pont de Nant (Chenevard), Col de Lens supra Saxon (id.).
- 3) sinuososerratum Zahn, Hierac. d. Schw. p. 477; foliis rosularibus submagnis oblongis longe petiolatis in petiolum abrupte (intimis magis sensim) angustatis, caulinis 4—5, inferioribus petiolatis, reliquis in basin subpetioliformem angustatis v. basi angustata sessilibus et subamplexicaulibus, omnibus grosse v. grossissime sinuato-dentatis, dentibus magnis apice glanduliformibus, aliis parvis in sinibus alternantibus. — Helvetia: Pacoteires (Besse), Les Plans (Wilczek), Zermatt, Niouc (Wolf).
- 4) crepidellum A.-T., apud Zahn in Schinz et Kell. l. c.; foliis radicalibus exterioribus + cordato-ovatis, inflorescentia + silvaticiformi. — Helvetia: Alesse (Muret), Simplon (Favrat), Binn (Chenevard), Oberwald (Zahn).

β) **crepidopsis** Zahn, Hier. d. Schw. (1906) p. 477; *H. crepidifolium* A.-T. in sched. p. p.; foliis irregulariter glanduloso- et serrato-dentatis, rigidioribus, saturate viridibus subglaucescentibus, supra sparsissime pilosis; capitulis parum numerosis (5—15); stylo subdiluto. — Tirolia: Luttach (Treffer). — Meo sensu propria subspecies.

Exsiccata: Doerfler, Herb. norm. 3120.

Tab. 214, Fig. B. 3. *H. integrifolium* Lange ssp. *crepidifolium* A.-T. β) *crepidopsis* Zahn (leg. Treffer). 3. Squama.

Subspecies **oleicolor** Zahn, Hier. d. Schw. (1906) p. 480; *H. pseudomurorum* Treffer in sched. — Variationi *crepidopsis* subspeciei *crepidifolii* A.-T. valde simile. Ubique breviter tantum pilosum. Folia olivaceo- v. saturate viridia, late lanceolata v. angustiora, submollia v. rigida, breviter dentata v. irregulariter serrato-multidentata haud ita magna, supra + glabra lucidaque, subtus glaucescenti-albo-viridia; caulina 2—3 (—4). Reliqua ut in ssp. *integrifolio*.

Helvetia: Inter Sils et iugum Maloja (A. et C. Touton), Parpan (id.); in m. Alvier

(Murr): Vorarlbergia: in iugo Arlberg (Murr); Tirolia: supra Schluppes in v. Jaufental (Huter), Luttach (Treffer).

Tab. 214, Fig. A 1, 2. *H. integrifolium* Lange ssp. *oleicolor* Zahn (in v. Jaufental, leg. (Murr). 1. Squama. 2. Pedunculus sub involucrio.

Subspeciei *crepidifolii* variatio *crepidopsis* pariter ac ssp. *oleicolor* formulae *lanceolatum* < *silvaticum*, ut opinor, respondent.

Subspecies *integrifolium* Lange l. c.; *H. subalpinum* A.-T. l. c.; *H. diaphanum* Ravaut, Soc. dauph. no. 850. Caulis 30—70 cm altus. Folia rosularia 3—6 longe petiolata saepe permagna, ovata v. oblongo-lanceolata, abrupte in petiolum contracta v. \pm truncata, sed semper paulum in petiolum decurrentia v. \pm sensim angustata, plerumque acuminata, leviter denticulata v. dentata, dilute v. saturate viridia, subtus glaucescenti-viridia, saepe tenuia v. papyracea; caulina 2—4 remota saepe permagna radicalibus similia v. haud raro cito decrescentia, inferiora in petiolum late alatum basi sublatiorem subamplexicaulemque contracta, superiora sessilia subamplexicaulia obsolete v. subgrosse dentata. Inflorescentia laxissime squarrosa, ramis oblique v. erecto-patentibus, oligo- v. pleiocephala, saepe indeterminata. Involucrum (8—) 9—10 mm longum ovatum v. ovato-cylindricum, squamis \pm angustis obtusis v. (intimis) acutiusculis, epilosis, dense glandulosis. Achaenia rubro-brunnea v. brunneo-atra.

Variat: α) *genuinum* Zahn, in Koch Syn. p. 1883; Hierac. d. Schw. p. 479; caule inferne dense piloso, foliis utrinque modice v. subdense, in petiolo \pm dense pilosis (0,5—1,5 mm). Glandulae densissimae.

1) normale Zahn, Hierac. d. Schw. l. c.; foliis permagnis.

a) *verum* Zahn l. c., foliis omnibus permagnis leviter tantum denticulatis. — Dania (Lange!). — Helvetia: Creux-du-Van (Muret), Tête-plumée au Grd-Soleil (Jeanjaquet) in Iurasso; Pont de Nant (Wilczek), Col de la Croix, inter Orsières et Bourg-St.-Pierre (A. et C. Touton) Exsiccata: Dörfler, Herb. norm. 3123 (e Dania)!

Inter plantam Danicam (Langeanam) et Helveticam nulla differentia exstat.

b) *subalpinum* A.-T., foliis minus magnis, caulinis subciliatis decrescentibus, inflorescentia \pm indeterminata, ramis inferioribus elongatis. — Per Alpium tractum haud rarum, sed praecipue in Delphinatu et in Helvetia australi-occidentali pervulgatum.

c) *calvescens* Zahn, in Schinz et Kell., Fl. Schw. ed. 2 II (1905) p. 335; foliis supra glabrescentibus. — Cum forma praecedenti.

d) *dentatum* Zahn, Hierac. d. Schw. p. 479, foliis breviter glanduloso- v. (praesertim caulinis) \pm grosse serrato-dentatis, magnis. — Helvetia: Inter Frenières et Solalex (Zahn), L'Aisy supra Châtel-sur-Montsalvens (Jaquet) etc.

e) *alpestre* A.-T. in sched. apud Zahn l. c., foliis radicalibus minus magnis, caulinis cito decrescentibus, omnibus saepe \pm rigidis et haud raro purpureo-coloratis (f. *purpureum* A.-T., Monogr. p. 24). — Grd-St.-Bernhard: Les Combes (Wilczek), in alpi. supra Bex (Muret), in valle Binn (Chenevard), Samnaun Rhaetiae (Kaeser) etc.

- f) *maculatum* Zahn l. c. p. 480. — Foliis supra submaculatis. — Inter Fionney et Pannossière Valesiae (A. et C. Touton).
- g) *submurorum* Zahn l. c., foliis rosularibus truncatis v. exterioribus \pm cordatis. — Helvetia: Simplon (Besse), Klusalpe pr. Reidenbach in v. Simmental (Maurer); Parpan et Engadina superior (A. et C. Touton)
- 2) *papyraceum* A.-T., Hier. Alp. franç. p. 88; nec Sch.-Bip.; foliis tenuibus sed papyraceis dilute viridibus subtus \pm glaucescenti- et albido-viridibus, \pm sparsim brevissimeque pilosis; involucris minoribus, squamis angustis, pedunculis plerumque tenuissimis, glandulis tenuioribus.
- a) *normale* Zahn, foliis tantum denticulatis, rosularibus plerumque minus numerosis longe tenuiterque petiolatis. — Helvetia austro-occidentalis.
- b) *ellipticum* A.-T. l. c.; *H. ellipticum* Jord., Cat. gr. jard. Dij. 1848 p. 21 apud A.-T.; foliis caulinis saepe magnis ellipticis v. ovatis saepe \pm grosse dentatis. — Iurassus, Helvetia austro-occidentalis.
- c) *attenuatum* Zahn l. c., foliis omnibus utrimque aequaliter angustatis oblongo-lanceolatis. — Helvetia: in silvis pr. Lens (Besse).
- d) *dentatum* Zahn l. c., foliis minoribus, sed \pm grosse dentatis. — Helvetia austro-occid. et austr.: Dalpe (Chenevard).
- e) *ramosum* A.-T. l. c., caule iam e basi ramoso. — Valesia: Lavey (Chenevard) etc.

Tab. 215. *H. integrifolium* Lange ssp. *integrifolium* α) *genuinum* 1) *normale* a) *verum* Zahn (inter Orsières et Bourg St.-Pierre Valesiae leg. A. et C. Touton). 1. Squama. 2. Pedunculus sub involucrio.

Subspecies **moravicum** Freyn in litt. ad Uechtr. 1883; Oborny, Fl. Mähr. p. 590; Zahn, in Koch Syn. (1901) p. 1884; *H. integrifolium* Lange var. *alpestre* Uechtr., Result. Durchf. schles. Planerog.-Fl. (Jahresber. schles. Ges. 1884 p. 10). — Subspeciei *integrifolio* Lange valde simile. Folia rosularia 2—5, exteriora parva saepissime emarcida, reliqua late ovata v. ovato-oblonga et oblongo-lanceolata, obtusiuscula v. subacuta, caulina 2—3 (—5), inferius in petiolum longum angustatum ovato-lanceolatum acuminatum, media basi angustata sessilia vix subamplexicaulia, summa lanceolata vel \pm bracteiformia; omnia disperse breviterque pilosa denticulata v. subdentata. Involucra obscure canescenti-viridia v. atra, pariter ac pedunculi dense sat longeque glandulosa et semper pilis nonnullis obscuris adpersa. Capitula 4—12. Achaenia rubrobrunnea.

In Sudetis: Grosser Kessel, Mentschikgraben (Freyn), Schlösselgraben copiose, Franzens-Jagdhaus, Petersteine, Altvater, Hockschar (Ficinus, Bubela, Oborny), Johannishütte, Fuhrmannsteine, Brünnelhaide, Hirschbrunnen, Maiberg, Kleiner Kessel, Schwarze Koppe pr. Kl.-Mohrau, Alfredshütte pr. Altendorf, Wilder Steingraben pr. Winkelsdorf; usque ad 800 m descendens (Oborny, Hierac. Mähr. österr. Schles., in Verh. nat. Ver. Brünn XLIII et XLIV 1905 p. 183).

Tab. 216. *H. integrifolium* Lange ssp. *moravicum* Freyn (in m. Brünnelhaide montium „Gesenke“ leg. A. Oborny). 1. Dentes ligularum. 2. Squama. 3. Pedunculus sub involucrio. Subspecies **albinum** Fr., Epicr. (1862) p. 103; Fiek, Fl. Schles. (1881) p. 272; Zahn,

in Koch Syn. (1901) p. 1879; *H. abatum* Fr. Symb. (1850) p. 105 p. p.; *H. procanthoides* Vill. a) *sparsifolium* Tsch. in Flora (1828) Erg.-Bl. I p. 74. Caulis (22—) 30—35 (—50) cm altus gracilis v. subcrassiusculus, superne subflexuosus, basi rubescens sursum viridis, ± distincte striatus, infra medium mediocriter v. subdense pilosus, superne epilosus et sparsim mediocriterve floccosus, simul modice sparsimve glandulosus v. subglabratus. Folia gramineo-viridia ± tenuia (praesertim in umbrosis), subtus pallidiora, subdense, in margine densius pilosa (0,5—1 mm), pedunculis subvillosulis; radicalia 2—4 rarius compluria florendi tempore virentia, oblongo-ovata, infra medium v. in inferiore tertia parte latissima, plerumque in petiolum mediocriter longum anguste alatum abrupte contracta, basin versus sinuato-dentata v. denticulata, obtusa v. obtusiuscula; caulina (2—) 3 (—4), imum (in caule 4-foliato etiam secundum) radicalibus simile sed plerumque maius, proximum in inferiore tertia parte, rarius iam infra medium abrupte in basin late alatum subpetioliformem basi semiamplexicaulem contractum, apice acutiusculum, rarius obtusiusculum; summum ovatum parum amplexicaule vel sessile, plerumque ± acuminatum. Capitula (2—) 3—5 (—10), acladium 10—20 mm longum, rami primarii (1—) 2—3 (—4) subremoti arcuato-erecti, ordines axium 3 (—4). Involucrum 10 (—11) mm longum ovatum epilosum dense glandulosum plerumque subfloccosum, squamis subangustis v. sublatiusculis subatris, exterioribus obtusiusculis v. acutiusculis, interioribus ± acutis viridi-submarginatis, intimis late viridi-marginatis. Pedunculi graciles dense glandulosi epilosi, praesertim superne modice floccosi. Flores aureo-lutei, ligulae apice breviter subciliatae, stylus obscurus, achaenia rubro-brunnea.

In montibus Asciburgensibus (Riesengebirge) endemum: Grosse et Kleine Schneegrube 1250—1300 m, Elbgrund (Pax), Kleiner Teich, etiam forma *stylosa* (Pax), Langer Grund (Fiek), Melzergrund, Kleine Koppe (G. Schneider), Kesselkoppe, Kiesberg (Fiek), Krkonoš (Freyn). — (800—) 1000—1350 m.

Tab. 217, Fig. A. 1, 2. *H. integrifolium* Lange ssp. *albinum* Fr. (in m. Grosse Schneekoppe 1260—1290 m solo granitico leg. G. Fiek). 1. Squama. 2. Pedunculus sub involucri.

Subspecies **exilentum** Arv.-Touv., Hierac. Alp. franç. (1888) p. 90; Zahn, in Koch Syn. (1901) p. 1881; Hierac. d. Schw. (1906) p. 480; *H. subalpinum* var. *exilentum* A.-T. in sched. — *H. silvatico* proximum. Folia radicalia 2—4 subparva oblongo-lanceolata v. lanceolata v. ± ovata, acuta v. obtusa, ± longe petiolata, praesertim basin versus saepe grosse dentata; caulina 2 (—3) remota, citissime decrescentia, basin versus angustata parum amplexicaulia, haud raro subtus ± floccosa, plerumque grosse dentata. Capitula plerumque pauca parva, 8—9 mm longa, epilosa v. pilis solitariis obsita, modice floccosa, sat dense glandulosa. Pedunculi consimiles, cani.

Variat: α) **exilentifforme** Zahn, in Schinz et Kell., Fl. d. Schweiz (1905) p. 331; Hierac. d. Schw. p. 481; foliis lutescenti-viridibus subtus effloccosis, denticulatis v. breviter dentatis. — Helvetia: Grd St.-Bernhard, Arpille (Besse), Simplon (Favrat). — Delphinatus. — Exsicc.: Soc. franco-helv. no. 751 (false „*brunelliforme*“ denominatum).

β) **subexilentum** Zahn, Hier. d. Schw. p. 481; f. *flocciferum* Zahn, in Schinz et Kell. l. c.; foliis subtus ± dense floccosis.

a) *denticulatum* Zahn, Hier. d. Schw. l. c.; foliis in margine tantum denticulatis. — Helvetia: Bérisal (Touton), Stutzalpen pr. Splügen (Zahn), Val Avers (von Salis).

- b) *dentatum* Zahn l. c.; foliis basin versus \pm grosse dentatis, caulinis \pm lanceolatis. — Helvetia: Arpille pr. Martigny, Pas de l'Ours supra Lens 1400 m (Besse), Riederalp (Bernoulli), in valle Eginen et inter Oberwald et iugum Grimsel (Zahn); Col de la Croix (A. et C. Touton), in alpinis pr. Grindelwald 17—1800 m (Bernoulli), Kandersteg (A. et C. Touton); Maloja (id.), in valle Sertig pr. Davos (Zahn); in pago Ticinensi: Val Piora (Bernoulli). — Tirolia: supra viculum Schluppess in valle Jaufen-
tal (Huter). — Stiria: Turrach (Fest). — Vorarlbergia: Zeinis (Richen).
 γ) *pseudoviride* A.-T., Hierac. Alp. franç. p. 90; foliis saturate viridibus sub-
glaucescentibus rigidis grosse dentatis. *H. oleicolore* analogum vel for-
mulae *integrifolium* < *bifidum* respondens, sed involucri epilis. —
Helvetia: Arpille (Besse). — Delphinatus: Briançon (Arv.-Touvet).

Tab. 217, Fig. B. 3, 4. *H. integrifolium* Lange ssp. *exilantum* A.-T. (e valle Jaufen, leg. Huter). 3. Squama. 4. Pedunculus sub involucri.

Subspecies *subelegans* Murr et Zahn, in Öst. bot. Zeitschr. (1903) p. 424; *H. sil-
vaticum* > *elegantissimum* Murr l. c. — *H. silvatici* ssp. *serratifolio* Jord. valde simile. Caulis
ad 40 cm altus gracilis breviter subpilosus, superne subfloccosus subglandulosusque. Folia
rosularia ad 7 longe petiolata, oblongo-ovata v. ovato-lanceolata, obtusiuscula v. acuminata,
basi \pm truncata, utrimque et praecipue basin versus irregulariter grosseque multidentata,
dentibus maioribus triangularibus v. lanceolatis glanduloso-acutis grossis minoribus immixtis,
gramineo-viridia, disperse, in margine nervoque dorsali et praesertim in petiolo densius pilosa.
subrigidiuscula; caulina 3 subcito decrescentia, imum breviter petiolatum oblongo-lanceolatum
radicalibus simile, secundum lanceolatum acuminatum basi angustatum sessile minus grosse
dentatum, summum angustius, subdentatum. Inflorescentia laxa paniculata, acladio ad 20 mm
longo, ramis primariis 3—4 remotis, ordinibus axium 2—3 (—4), capitulis (5—) 10—15.
Involucri 10 mm longum ovatum obscurum, epilosum subeffloccosum dense glandulosum.
squamis sublatiusculis acuminatis acutis obscuris, interioribus dilutius (viridi-) marginatis.
Pedunculi dense floccosi glandulosique, epilosi. Flores saturate lutei, ligulae apice subglabrae,
stylus obscurus, achaenia rubro-brunnea.

Tirolia: Supra viculum Schluppess in valle Jaufental pr. Sterzing (leg. Murr). — Vor-
arlbergia: Gauertal (id.).

Tab. 218. *H. integrifolium* Lange ssp. *subelegans* M. et Z. (e loco classico, leg. Murr).
1. Squama. 2. Pedunculus sub involucri.

116. Hieracium arlbergense Evers [in sched. 1883; Murr, in Allg. bot. Zeitschr., Beiheft
p. 3 (1899)] apud Zahn, in Koch Syn. (1901) p. 1894 — *iuranum* \times *chlorifolium* (ssp. *pul-
chricforme* M. Z.) apud Murr l. c. — Caulis ad 30 cm altus, 3—4-cephalus. Folia rosularia
obovata v. oblongo-spathulata v. oblongo-lanceolata, obtusiuscula v. acuta, sensim in petiolum
subbreve \pm alatum attenuata; caulina 3—4 lanceolata sensim decrescentia remota, inferiora
2 in basin late alatum subpetioliformem attenuata sessilia subamplexicaulia, superiora basi
paulum attenuata v. subovata sessilia, omnia glanduloso-denticulata, dilute viridia subglaucescentia,
utrimque modice v. disperse, in margine nervoque dorsali et in petiolo pariter ac caulis sub-
dense longeque pilosa (3—5 mm). Acladium ad 4 cm longum, rami primarii 2—3 mono-
cephali. Involucri semiglobosum ad 15 mm longum subobscurum, subdense pilosum

(2,5—3,5 mm) subeglandulosum, basin versus tantum disperse floccosum, squamis atro-viridibus subdilatius marginatis, e basi sublatiuscula acuminatis acutis. Pedunculi cani subeglandulosi subdense pilosi, bracteis 2—3 longe subulatis obsiti. Flores lutei, ligulae apice vix ciliatae, stylus obscurus, achaenia? — Aug.

Vorarlbergia: Ad torrentem Alfenz pr. Stuben ad pedem iugi Arlberg (Evers, Murr).

Forma rarissima, habitu *H. valdepilosi* oligophylli vel *H. subelongati*.

Tab. 213, Fig. A. *H. arlbergense* Evers (e loco classico, leg. Murr). 1. Squama. 2. Pedunculus sub involucrio.

117. Hieracium brumale Arv.-Touv. — **integrifolium—pallidum** Zahn. — Arv.-Touv., Hierac. Alp. franç. (1888) p. 71. — Caulis 20—50 cm altus subrigidus subanguloso-striatus subpilosus, basi violaceus, phyllopodus v. hypophyllopodus. Folia glauco-viridia saepe ± purpureo-colorata, subtus subpilosa, in parte superiore marginem versus subsetoso-subpilosa, setis brevioribus et plerumque tenuioribus quam in *H. pallido* Biv. (*Schmidtii* Tsch.), in margine glandulis minutissimis sparsis v. dispersis obsita, in petiolis subdensius pilosa, denticulata v. dentata v. interdum basin versus subinciso- et ± grosse dentata, plerumque et praesertim in margine ± undulato-crispata; radicalia parum numerosa v. haud raro florendi tempore partim v. omnia emarcida, elliptico-lanceolata v. lanceolata v. oblonga, in petiolum brevem v. elongatum basi subvaginantem et purpureo-coloratum citius sensimve attenuata; caulina 2—5, ima radicalibus subsimilia, in petiolum brevem alatum basi subvaginantem attenuata, reliqua subcito decrescentia, basi sessilia v. subsessilia v. interdum dilatata et subamplexicaulia. Inflorescentia paniculata, acladium ad 20 mm longum, rami primarii 3—7 oblique erecti subdivaricati, inferiores remoti saepe ex omni ala orti, ordines axium 2—3 (—4), capitula 7—15 vel compluria. Involucrum 8,5—10 mm longum ovato-cylindricum v. ovatum basi truncatum, obscurum, squamis e basi latiuscula acuminatis subobtusis v. interoribus acutiusculis, omnibus subfloccosis subdense glandulosis subepilosis, intimis pallide viridi-marginatis. Pedunculi obscure cani dense glandulosi sparsim pilosi. Flores saturate lutei, ligulis semper subciliatis stylisque luteis vel denique lividis; achaenia ± obscure rubro-brunnea; alveoli in margine denticulati vel fibrilloso-dentati. — Aug.

Variat: a) *virgatum* A.-T. l. c.; caule elatiore saepius hypophyllopodo apice ramoso, foliis ad 5 subsensim decrescentibus obsito.

b) *depressum* A.-T. l. c.; caule humiliore saepe ascendenti et haud raro usque ad basin ramoso, foliis minus numerosis cito decrescentibus obsito.

Delphinatus: Col du Lautaret, le Gargas, le Valbonnais; le Valgaudemard à Navettes etc.; Vallon du Guil in m. Viso etc. 18—2300 m (Arvet-Touv.).

Exsiccata: Zahn, Hieraciotheca Europaea 384 (b).

Tab. 219. *H. brumale* A.-T. a) *virgatum* A.-T. (in iugo Lautaret leg. A. et C. Touton).

1. Dentes ligularum. 2. Squama. 3. Pedunculus sub involucrio.

Huc pertinet etiam ssp. *pogoneuron* Zahn, Hieraciotheca Europaea 484 (anno 1910).

118. Hieracium Beauverdianum Besse et Zahn, apud Zahn, Hierac. d. Schweiz (1906) p. 482 — **integrifolium—bifidum** Zahn; *H. doronicifolium* ssp. Beauverdianum Besse et Zahn, in Bull. Soc. Murith. (1903) p. 182; *H. iuranum-bifidum* Zahn, Hier. d. Schw. l. c.

Caulis 30—60 cm altus gracilis disperse breviterque pilosus, fere usque ad basin floccosus, phyllopodus, apice v. usque ad basin ramosus. Folia rosularia brevius longiusve petiolata,

elliptica obtusa, basi subtruncata v. abrupte in petiolum angustata, v. oblonga v. late lanceolata et utrimque breviter v. longius acuminata, irregulariter dentata v. \pm grosse dentata, pluridentata, dentibus apice glanduliformibus, saepe in margine subundulata, lutescenti-gramineo-viridia, supra sublucida et pilosa, v. rosularia exteriora tantum (rarissime omnia) sparsim pilosa, subtus albido-viridia, glaucescentia et disperse molliterque, in margine nervoque dorsali subdense albopilosa (1—2 mm); caulina 2—4 (—5) valde remota lanceolata v. oblongo-lanceolata, imum in petiolum brevem late alatum angustatum v. basi angustata sessile et pariter ac reliqua leviter amplexicaule, summa saepe bracteiformia et subtus interdum leviter floccosa. Inflorescentia laxa paniculata v. longe squarroso-ramosa \pm divaricata, acladio (10—) 25—30 mm longo, ramis 3—6, inferioribus saepe valde remotis ex omni ala ortis v. superioribus 2—3 tantum evolutis, ordinibus axium 3—4, capitula (4—) 7—20 (—25). Involucrum ovatum subparvum 8—9 (—10) mm tantum longum, squamis angustis obtusiusculis v. obtusis, intimis (rarius omnibus) plerumque acutis, subatris, disperse mediocriterve pilosis, pilis brevibus basi atris, subdense glandulosis et modice v. subdense floccosis. Pedunculi cani subdense glandulosi, sparsim modiceve pilosi. Flores saturate lutei, ligulis apice breviter subciliatis, stylus brunneus v. subater, achaenia castanea. — Iul.-Aug.

Habitu ssp. *integrifolii* v. *exilenti*, sed involucri subpiloso, pariter ac caulomata densius floccoso, inflorescentia squarrosa longe ramosa, foliis \pm rigidis supra saepissime glabris, grosse dentatis formulae *integrifolium-bifidum* respondens.

Subspecies **Beauverdianum** Besse et Zahn l. c.; floribus tubulosis, squamis \pm obtusis \pm dense floccosis glandulosisque, subdisperse breviterque pilosis, pedunculis consimilibus. — Grd. St.-Bernhard: in glareosis ad Pradaz 2000 m Italiae (Besse).

Subspecies **pseudexilentum** Besse et Zahn, in Zahn, Hierac. d. Schw. p. 483; floribus evolutis, squamis obtusiusculis v. interioribus acutis, modice tantum floccosis, sed submodice pilosis (subdenseque glandulosis), pedunculis consimilibus. — Valesia: In m. Arpille pr. Martigny 2080 m et ad Pacoteires supra Alesse 2000 m (Besse).

Subspecies **fariniceps** Murr et Zahn, nov. ssp.; floribus evolutis, squamis acutiusculis subdense floccosis glandulosisque, sed sparsim pilosis, pedunculis consimilibus. Habitu *H. bifido* valde simile. — Vorarlbergia: Infra iugum Arlberg pr. Stuben (Murr). — Helvetia: In m. Alvier pr. Buchs (id.).

Tab. 220. *H. Beauverdianum* Besse et Zahn ssp. *fariniceps* M. et Z. (pr. Stuben leg. Murr). 1. Dentes ligularum. 2. Squama. 3. Pedunculus sub involucri.

Subspecies **Pollinianum** Zahn; *H. Beauverdianum* ssp. *laricicolum* Bicknell et Zahn, in Sched. ad Hieracioth. Europ. cent. III p. 26 (1908); nec ssp. *laricicola* Zahn, Hierac. d. Schw. (1906) p. 493; floribus evolutis, *ligulis apice glabris* v. subpapillois, squamis acutiusculis v. acutis subdense et praesertim marginem versus floccosis subglandulosis subpilosis, pedunculis consimilibus; *foliis mucronato-denticulatis, rarius subdentatis, in parte superiore pilis 0,5—1 mm tantum longis dispersis* v. interdum modice numerosis *obsitis*. — Italia bor.: Ad Pian Tendasco supra vallem Fontanalba di Tenda in silvis Laricis in consortio *H. integrifolii* Lange (Bicknell et Pollini). — Exsicc.: Zahn, Hieraciotheca Eur. no. 292.

119. Hieracium erythropodum Uechtr., in Fiek, Flora v. Schlesien (1881) p. 272; Zahn, in Koch Syn. (1901) p. 1884, in Hierac. d. Schweiz (1906) p. 483; = **iuranum—vulgatum** Zahn l. c. vel etiam *integrifolium—vulgatum*.

Subspecies **erythropodum** Uechtr. l. c. — Caulis (20—) 25—35 (—45) cm altus gracilis, rarius crassiusculus, subflexuosus, scabriusculus, inferne, rarius usque ad superiorem dimidiam partem pilis 1,5—2 mm longis subpilosis, apice tantum glandulis nonnullis et interdum pilis paucis dilutis floccisque sparsis obsitus, supra basin semper conspicue brunneo-rubro- vel violaceo-coloratus maculatusve. Folia dilute viridia subtus pallidiora, supra disperse, in margine nervoque dorsali densius, subtus mediocriter pilosa (0,5—1 mm) ± dentata, radicalia florendi tempore pauca, 1—2 (—4) virentia oblique erecta longe petiolata, petiolis ± intense violaceo-rubris sat dense pilosis (1,5—2 mm), oblongo-lanceolata, in petiolum ± alatum decurrentia, obtusiuscula v. subacuta; caulina (1—) 2—3 (—5) oblique erecta, inferius radicalibus simile, in petiolum sursum plerumque ± late alatum basi parum v. semiamplexicaulem attenuatum, secundum primo simile v. pariter ac tertium breviter subalato-petiolum plerumque semiamplexicaule oblongo-lanceolatum acutum, summa anguste lanceolata parva basi subamplexicaulia v. angustata sessilia. Inflorescentia determinata paniculata suprafastigiata, ramis (0—) 1—2 (—3), acladio ad 18 mm longo, ordinibus axium (0—) 1—2 (—3), capitulis (1—) 2—3 (—9). Involucrum (8—) 9—10 (—11,5) mm longum ovatum dense glandulosum, interdum pilis sparsis subatris et nonnullis brevissimis dilutis obsitum, modice floccosum v. denique subeffloccosum, squamis angustis acutis, exterioribus atroviridibus in margine pallidis, interioribus dilutioribus. Flores aureo-lutei, ligulis apice sparsim breviterque ciliatis, stylis obscuris.

Variat: α) **genuinum** G. Schneid., in „Das Riesengebirge in Wort und Bild“, Heft 51 et 52 (1894) p. 24; *H. albinum* β) *dentatum* Freyn in sched.; caule plerumque 3—5 foliato, foliis omnibus v. inferioribus aequaliter arguteque dentatis, dentibus oblique patentibus vel apice incurvatis, haud raro maioribus minoribus immixtis. — Variat a) *latifolium*, b) *angustifolium*. — In Sudetis: Kiesberg, Langer Grund, c. 1300 m (Fiek).

β) **subintegrifolium** G. Schneider l. c. p. 25; caule plerumque 2—, rarius plurifoliato, foliis subaequaliter denticulatis, rarius distincte, sed nunquam argute dentatis. — *H. vulgato* affinium, sed foliis radicalibus caulisque suberecto-patentibus diversum. — In Sudetis: Kiesberg, Bergschmiede, Kleiner Teich 1200 m, Schlingelbaude et profundius descendens 1000—1080 m (G. Schneider).

Tab. 222, Fig. A. *H. erythropodum* Uechtr. ssp. *erythropodum* Uechtr. β) *subintegrifolium* G. Schn. (Hirschbrunnen in montibus Gesenke, leg. Oborny).

Subspecies **coloratipes** Zahn, in Schinz et Kell., Exk.-Fl. d. Schw. (1905) p. 335; *H. obscuratum* Murr, Allg. bot. Zeitschr. 1899, Beitr. p. 3 et apud Zahn in Koch Syn. (1901) p. 1884; nec N. P. — Caulis 25—40 cm altus breviter subpilosus interdum usque ad basin ramosus v. caulibus lateralibus praeditus, basi subviolaceus v. subpurpurascens. Folia radicalia 2—3 elliptico- v. oblongo-lanceolata breviter dentata, utrinque attenuata, breviter petiolata, praecipue in margine breviter subpilosa, supra ± glabrescentia obscure viridia; caulina 2—3 (—4) valde remota lanceolata v. angustiora, utrinque aequaliter attenuata basi sessilia vix distincte amplexicaulia, imum subpetiolatum, summa subtus subfloccosa. Inflorescentia ± indeterminata, acladio 10 (—20) mm longo, ramis ad 4, inferioribus valde remotis longis erectis, ordinibus axium 3—4. Involucrum 10 mm longum, squamis obtusiusculis v. interioribus acutis, subangustis, subatris olivaceo-marginatis, disperse obscureque brevipilosis.

sparsim mediocriterve floccosis subglandulosis. Pedunculi albido-cani sparsim pilosi modice glandulosi. Ligulae apice vix subciliatae, achaenia atro brunnea. — Habitu *H. vulgati*.

Tirolia: in iugo Arlberg (Murr). — Helvetia: in v. Sertig pr. Davos (Zahn), Lenzerheide (A. et C. Touton), Sils—Maloja (id.), Eginental (Zahn), Arolla (Besse).

Tab. 221. *H. erythropodum* Uechtr. Ssp. *coloratipes* Zahn (e iugo Arlberg, leg. Murr). 1. Dentes ligularum. 2. Squama. 3. Pedunculus sub involuero.

Subspecies **nigratum** Murr et Zahn (1902) et apud Zahn, Hierac. d. Schw. (1906) p. 484. Caulis ad 60 cm altus gracilis v. subtenuis basi violaceus, distincte striatus, in inferioribus duabus partibus subpilosus, supra medium magis magisque floccosus. Folia radicalia saepe emarcida v. florendi tempore 1—2 virentia petiolata late lanceolata ± dentata: caulina ad 5 remota sensim decrescentia saturate viridia subtus pallidiora, ima petiolata, sequentia basi angustata v. subbrevis petiolata, summa sessilia vix subamplexicaulia, omnia lanceolata v. latiora, summa angustiora, ± longe acuminata acutiuscula v. acuta, more *H. vulgati* breviter serrato-dentata, supra ± glabra v. pilis dispersis brevissimis, subtus dispersis v. subnumerosis mollibus brevibus obsita, in nervo dorsali v. summa in tota parte aversa sparsim v. disperse floccosa. Inflorescentia laxa paniculata ad 12 cephalia, ramis subconfertis, acladio subbrevis, ramis ad 5 erectis strictis dense floccosis breviter subglandulosis subepilosis, ordinibus axium 3. Involucrum c. 9 mm longum ovatum denique depressum, squamis subatris subviridi-marginatis obtusis subdense breviterque glandulosis subsparsim floccosis epilosis, interioribus acutiusculis. Pedunculi glandulosi, dense floccosi, pilosi. Flores aureolutei, achaenia obscura.

Helvetia: Les Combes du Grd. St.-Bernhard 2200 m (Wilczek), Pacoteires supra Alesse 1900—2000 m (Besse), in iugo Simplon (Favre); Oussannaz (Schröter et Wilczek), in silva supra alpem Coudry pr. Grd.-Villars (Wilczek), Ormonts (Zahn), inter Jaun et Boltigen (Jaquet), in v. Eginen (Zahn), Samnaun (Käser); Cima di Carten 2000—2200 m in v. Puschlav (Braun), in pago Ticinensi: Dottro-Costa 1800 m (Keller). — Tirolia: In v. Jaufental supra viculum „Schluppes“ (Murr).

Tab. 222, Fig. B 1, 2. *H. erythropodum* Uechtr. ssp. *nigratum* M. et Z. (e valle Jaufen, leg. Murr). 1. Squama. 2. Pedunculus sub involuero.

120. Hieracium macilentum Fr. = **prenanthoides**—**psammogenes** (vel —**bifidum**) Zahn; Fries, Vet. Ac. Förh. 1856 p. 147; Epicr. 1862 p. 103; Christener, Hier. d. Schw. 1863 p. 18; Zahn, Hier. d. Schw. 1906 p. 484; nec Arv.-T., Hier. alp. fr. 1888 p. 90.

Subspecies **macilentum** Fr. l. c. — Caulis 20—40 cm altus saepe flexuosus, usque ad basin dense floccosus, modice molliterque pilosus eglandulosus. Folia radicalia 4—5, in petiolum ± brevem et ± late alatum angustata vel ± cito in petiolum longiorem anguste alatum contracta, oblonga, elliptica v. ovata, ± obtusiuscula v. acutiuscula et acuta, leviter denticulata v. subdentata v. subintegerrima, basi saepe grossius dentata, dilute lutescenti-viridia subglaucescentia, vix reticulata, submollia, in nervo dorsali subfloccosa v. dense floccosa; caulina 2—3 (—4) sensim decrescentia, ima basi saepe subpetioliformia, superiora subangustata v. basi rotundata semiamplexicaulia, subtus subfloccosa, omnia utrimque ± dense pilosa, pilis c. 1 mm longis, in nervo dorsali margineque pariter ac in caulis basi dense longiusque (2—3 mm) pilosa. Inflorescentia laxa paniculata subdeterminata 2—6 (—10) cephalia, acladio 2—5 cm longo, ramis 1—3 (—4) remotis ordinibus axium 2—3 (—4). Involucrum (8—) 9—10 mm longum, squamis angustis obtusis v. interioribus acutiusculis obscure canis dilute submarginatis.

modice pilosis, pilis dilutis basi obscuris, sparsim glandulosis albido-canotomentosis. Pedunculi canisubpilosi, glandulis solitariis obsiti. Flores saturate lutei, ligulis breviter subciliatis, stylis obscuris; achenia obscure rubro-brunnea.

Variat: $\alphagenuinum Zahn, Hier. d. Schw. p. 485. — Helvetia: In v. Eginental in glareosis sub glacie Griesgletscher (Lagger 1853), in convallibus Saflischthal et Melchtal pr. Binn (Favrat), c. 2000 m.$

β) **submacilentum** Zahn l. c.; foliis multo minus pilosis, glandulis in involucris pedunculisque numerosioribus subtenuibus. — Helvetia: Blattalp in v. Binntal (A. et C. Touton), Saflischthal (Besse); in iugo Simplon: Steinental—Ganterbrücke (A. et C. Touton), inter Kapfloch et Wasenalp (id.), supra „Les Galeries“ (Besse). — Pedemontium: Praborne in v. Cogne (Besse).

Tab. 224. *H. macilentum* Fr. ssp. *macilentum* (Fr.) Zahn, Hier. d. Schw. l. c. $\alphagenuinum Z. (in v. Eginental legi). — 1. Dentes ligularum. 2. Squama. 3. Pedunculus sub involucro. 4. Nervus dorsalis foliorum.$

Subspecies **macilentiforme** Murr et Z., in Koch Syn. (1901) p. 1879; *H. denticulatum* Evers in sched.; *H. juranum* f. *subgenuina* A.-T. in sched. — Caulis 30 ad 45 cm altus subpilosus superne tantum subfloccosus. Folia radicalia 1—3 (—5) sublonge petiolata obovata v. ovato-lanceolata, in petiolum cito v. longius angustata, submagna, utrimque disperse v. submodice, in margine nervoque dorsali et in petiolo densius pilosa, pilis in parte superiore rigidiusculis, lutescenti-gramineo viridia, \pm denticulata; caulina 3—4 (—6) elliptica v. oblongo-lanceolata, ima in petiolum late alatum basi dilatatum semiamplexicaulem sensim angustata, superiora basi angustata saepe subpanduriformia sessilia semiamplexicaulia, saepe subgrossius dentata, supra glabrescentia, distincte reticulato-venosa. Inflorescentia subindeterminata 5—10 cephalis, acladio 1—2 cm longo, ramis remotis sublongis subarcuato- v. oblique erectis, ordinibus axium 2—3 (—4). Involucrum ovatum 10 mm longum, squamis sublatiusculis obtusis v. acutiusculis obscure cano-viridibus, dilute marginatis, subdense (praecipue in margine) floccosis, breviter subpilosis (pilis subobscuris basi atris), submodice glandulosis, apice distincte barbularis. Pedunculi consimiles, dense floccosi v. canis; glandulae mox evanidae. Flores dilute lutei, apice sparsim ciliati; achenia rubro-brunnea.

Vorarlbergia: Ad torrentem Alfenz pr. pag. Stuben ad pedem m. Arlberg et prope Rauz 14—1600 m (Murr).

Exsiccata: C. H. Zahn, Hieraciotheca Europaea no. 291.

Tab. 223, Fig. A 1. *H. macilentum* Fr. ssp. *macilentiforme* Murr et Zahn (e loco classico, leg. J. Murr). 1. Squama.

In m. Arlberg una planta formae intermediae *macilentiforme* \times *incisum* (*H. heterogenes* M. et Z., Öst. bot. Zeitschr. 1903 pr. 424) ab amico Murr inventa est.

121. Hieracium gombense Lagger et Christener, apud Christener, Hier. d. Schw. (1863) p. 19: = *macilentum* \times *atratum* Favrat in sched. et apud Zahn, in Koch Syn. (1901) p. 1892: Hier. d. Schw. (1906) p. 486; nec Arv.-T., Hier. Alp. franç. (1888) p. 99; *H. anglicum* Lagg. in sched.; *H. dentatum* v. *Salaevense macrophyllum* Fr., Epicr. p. 63; nec Schleich.

Caulis 20—30 cm altus gracilis v. subtenuis subascendens, saepe subflexuosus, subtiliter striatus, subpilosus, basi sat dense pilosus, phyllopodus. Folia rosularia pauca v. compluria, in petiolum brevem longioremve sensim angustata v. distincte petiolata, lanceolata oblongo-

lanceolata v. (exteriora) oblonga, acuminata mucronata, denticulata, rarius dentata (interdum dentibus in petiolum descendentibus), lutescenti-viridia \pm subglauescentia, subrigidiuscula; caulina 3—4 remota, sensim decrescentia, basi attenuata subpetioliformia v. sessilia semiamplexicaulia, reliqua ut in rosularibus. Inflorescentia laxa paniculata v. albefurcata subdeterminata 2—10 cephalis, acladio 1—5 cm longo, ramis 1—4 remotis oblique ascendentibus \pm gracilibus, ordinibus axium 3 (—4). Involucrum 10—11,5 mm longum ovatum basi rotundatum: squamae subangustae obtusiusculae v. (interiores) acutae, obscure canae dilute submarginatae. Pili in involucrio, pedunculis ramisque modice numerosi v. subdensi, in foliis consimiles, sed in margine nervoque dorsali densiores, 1—2 (—3) mm longi. Glandulae in involucrio pedunculisque modice numerosae v. subdensae, in caule usque ad basin dispersae, in foliis solitariae. Flocci in parte aversa foliorum caulinarum superiorum dispersi, in nervo dorsali reliquorum valde solitarii v. nulli, pedunculi et involucria sat dense floccosa, caulis usque ad basin deminute floccosus. Flores saturate lutei, ligulis apice ciliatis, stylis subatris; achaenia castaneo-brunnea. — Flor. Iulio—Aug.

Helvetia: In declivitatibus occidentalibus iugi Nufenen versus vallem Eginental, c. 2100—2300 m (Lagger, Favrat).

Tab. 223, Fig. B 2, 3. *H. gombense* Lagg. et Christener (loco classico legi). 2. Squama, 3. Pedunculus sub involucrio.

122. Hieracium iuraniforme Zahn — **iuranum—incisum** Zahn. in Schinz et Kell., Fl. Schw. ed. 2 II (1905) p. 332; Hierac. d. Schw. 1906 p. 486.

Caulis 30—60 cm altus gracilis v. crassiusculus, rarius tenuis, molliter subpilosus, saepe flexuosus, phyllopodus. Folia rosularia pauca v. compluria, breviter longeve petiolata, late ovato-lanceolata v. oblongo-lanceolata, abrupte v. sensim in petiolum saepe \pm alatum angustata, acutiuscula v. sensim acuminata, denticulata v. basin versus grosse dentata, utrimque disperse mediocriterve brevipilosa, \pm mollia, dilute (saepe \pm lutescenti-) viridia; caulina (3—) 4—8 \pm remota, sensim v. subcito decrescentia, ima radicalibus similia, \pm petiolata v. basi angustata subpetiolata, sequentia elliptico-lanceolata, basin versus \pm panduriformia angustata sessilia semiamplexicaulia, superiora basi lata parum v. semi-amplexicaulia. Inflorescentia laxa paniculata, oligo- v. pleiocephala, acladio 10—50 mm longo, ramis primariis 3—6, infimis saepe remotis, ordinibus axium 3 (—4), capitulis (2—) 5—12 (—20). Involucrum 9—10 mm longum ovatum, squamis angustis v. sublatiusculis, obtusis v. acutiusculis, subatris, dense glandulosis, sparsim v. subdense floccosis, disperse v. sparsim pilosis. Pedunculi sparsim pilosi v. subepilosi, \pm canis, dense glandulosi. Flores saturate lutei, ligulis apice ciliatis, stylis obscuris; achaenia brunnea. — Flor. Iul., Aug.

Habitu *H. iurani*, caule phyllopodo (oligo- vel) pleiophyllo, sed involucriis semper praeter glandulas \pm densas pilis simplicibus plerumque haud ita numerosis obsitis.

1. Pedunculi subepilosi v. pariter ac involucria pilis solitariis obsiti.

2. Folia caulina 4—8.

Subspecies **iuraniforme** Zahn l. c. — Folia rosularia compluria, plerumque magna et sublonge petiolata, exteriora abrupte in petiolum contracta, interdum basi truncata, late ovato-lanceolata; caulina 5—8 elliptico-lanceolata submagna sed \pm cito decrescentia. Caulis 30—60 cm altus.

α) **genuinum** Zahn, Hier. d. Schw. p. 487; squamis sublatiusculis obtusis v. acutiusculis.

1) normale Zahn l. c.; foliis supra pilosis, distincte petiolatis; squamis sat dense floccosis. — Helvetia: Les Merlas, Les Morteys, Varvalannaz (Jaquet), Dent de Ruth (Schröter, Wilczek), Bunschlerenalpe supra Boltigen in v. Simmental (Zahn), Bonaudon inter Allières et Montreux (Jaquet).

2) alatum Zahn l. c. p. 488; foliis caulinis supra glabrescentibus, radicalibus subcito v. sensim in petiolum \pm late alatum angustatis, inflorescentia \pm indeterminata, squamis atris submodice tantum floccosis. — In iugo Bonaudon (Jaquet).

β) **angustius** Zahn l. c.; involuero minore, squamis angustis obtusiusculis v. subacutis. — Helvetia: Inter Jaun et Reidigalp, Petit-Mont, L'Urquy supra Allières (Jaquet). Aliam subspeciem *iuranopsis* Zahn l. c. p. 487 ex Alpibus Helvetiae occidentalis descripsi.

Tab. 225. *H. iuraniforme* Zahn ssp. *iuraniforme* α) *genuinum* 1) normale Zahn (Les Morteys, leg. Jaquet). 1. Squama. 2. Pedunculus sub involuero.

2* Folia caulina ad summum 4 v. 5.

Huc pertinet ssp. *sparsipilum* Zahn, in Schinz et Kell., Fl. d. Schw. ed. 2 II (1905) p. 332.

1* Pedunculi et involucra disperse v. submodice pilosa.

3. Folia caulina 4–7.

Huc pertinent ssp. *iuranigenum* Zahn, Hier. d. Schw. p. 488 et ssp. *nufenense* Zahn = *macilentum*—*iuranum* Z., in Schinz et Kell. l. c. p. 333.

3* Folia caulina 2–4. — Formulae *integrifolium*—*incisum* melius respondens.

Subspecies **epimediiforme** Benz et Zahn, in Österr. bot. Zeitschr. 1902 no. 7. Caulis c. 40 cm altus tenuis breviter subpilosus supra inferiorem tertiam partem magis magisque floccosus. Folia radicalia c. 3 elliptica v. late ovata apice rotundata v. breviter acuta, basi subtruncata v. abrupte rarius subsensim in petiolum sublongum subdense pilosum contracta, mucronata, denticulata v. subdentata, v. interdum basi subgrossius dentata, submolli saturate viridia, sparsim v. disperse breviterque pilosa; caulina 2 (—3) valde remota ovato- v. elliptico-lanceolata subacuminata, imum in petiolum brevem attenuatum, summum basi rotundatum sessile subamplexicaule, utrumque basi subvillosulum. Inflorescentia laxa paniculata, acladio 5—12 mm longo, ramis 3—4, 1–3 cephalis. Involuerum 10 mm longum ovatum, squamis latiusculis acuminatis acutiusculis apice barbularis, obscuris, dilute viridi-marginatis, subfloccosis, breviter disperseque pilosis, submodice glandulosis. Pedunculi albido-cani, modice glandulosi, disperse albido- et molliter pilosi. Ligulae luteae, apice sparsim ciliatae.

Carinthia: Inter Fischbachalpe et iugum Kernadulscharte pr. Raibl, c. 1570 m (R. de Benz).

Tab. 226, Fig. A. *H. iuraniforme* Z. ssp. *epimediiforme* Benz et Z. (e loco classico, leg. R. de Benz).

123. Hieracium epimedium Fr., Epicr. (1862) p. 103 = *iuranum* < *bifidum* Zahn; *H. iuranum* < *incisum* Zahn, Hierac. d. Schw. 1909 p. 489.

Subspecies **epimedium** Fr. l. c. — Caulis 30—35 cm altus gracilis v. subtenuis subpilosus supra medium subfloccosus, phyllopodus. Folia obscure viridia, radicalia petiolata plerumque pauca (2—3), ovato- v. oblongo-lanceolata, exteriora saepe subobovata, acutiuscula v. subacuta mucronata, basi subcito sensimve in petiolum alatum attenuata, argute denticulata v. -dentata, supra glabra subtus sparsim, in margine subdense breviter pilosa; caulina

2—3 (—4), ima 1 (—2) lanceolata basi sensim attenuata breviter petiolata v. sessilia et parum amplexicaulia, sequens saepissime cauli medio insertum basi angustatum sessile semiamplexicaule, summum fere semper bracteiforme. Inflorescentia laxè paniculata v. altefurcata, aclado 10—30 mm longo, ramis primariis 3 (—4), inferioribus subremotis arcuato-erectis 1—3-cephalis, capitula 5—8. Involucrum 9—10 mm longum gracile ovatum, squamis latiusculis obtusis v. intimis acutiusculis, subfloccosis, subglandulosis, disperse pilosis, pilis subdilatatis, basi atris. Pedunculi subcanofloccosi, subglandulosi, disperse pilosi. Ligulae saturate luteae sparsim ciliatae, stylus fuliginosus; achaenia brunnea. — Iul., Aug.

Sabaudia: In monte Mirantin: L'Haut du Pré (Perrier).

Tab. 226, Fig. B 1, 2. *H. epimedium* Fr. ssp. *epimedium* (Fr.) Z. (e loco classico, leg. Perrier!; planta a cl. Friesio l. c. descripta!). 1. Squama. 2. Pedunculus sub involucro.

Subspecies **intybellifolium** Arv.-Touv., Bull. herb. Boiss. V 1897 p. 735; *H. epimedio* accedens, Fries, Hier. Europ. exs. no. 105; *H. epimedium* β) *intybellifolium* Zahn, in Koch Syn. 1901 p. 1880. — Caulis 20—40 cm altus, firmus, vulgo flexuosus, molliter breviterque subpilosus, superne subfloccosus. Folia radicalia 3—5 gramineo-viridia saepe sat magna, elliptica v. oblongo-lanceolata, rarius exteriora obovata et apice rotundata, plerumque acutiuscula v. acuta mucronata, in petiolum alatum saepe sublongum plerumque longe sensimque attenuata v. (exteriora) citius contracta, denticulata saepe subundulata, basin versus saepe leviter sinuato-dentata v. subinciso-grosseque dentata; caulina plerumque 2—3 remota cito decrescentia, imum in petiolum brevem late alatum basi subvaginanti dilatatum angustatum v. omnia basi angustata sessilia subamplexicaulia, apice acuminato-acuta, omnia mollia, utrimque molliter \pm pilosa vel supra glabrescentia, in margine nervoque dorsali et in petiolo subdensius longiusque pilosa. Inflorescentia subsquarrosa laxè paniculata, aclado 10—25 mm longo, ramis primariis 3—6 saepe ex omni ala ortis flexuosis, ordinibus axium 2—3 (—4), capitulis 5—12 (—20). Involucrum 10—11 (—12) mm longum rotundato-ovatum, squamis subangustis lanceolato-obtusis v. obtusiusculis, interioribus tantum saepe acutioribus, obscuris, disperse vel modice pilosis, -glandulosis et -floccosis. Pedunculi canofloccosi subpilosi subglandulosi. Flores saturate lutei, ligulae apice subciliatae, stylus brunneus v. subobscurus, achaenia obscure rubro-brunnea.

Tirolia: In alpinis schistosis calcareis vallium Ahrn (20—2200 m), Mühlwald et Lappach (Ausserdorfer), supra lacum Antholzer See (Huter), in m. Bergerkofl vallis Virgen (Ausserdorfer), in v. Teischnitz (Huter) et in v. Bergertal 1950—2300 m infra iugum Berger-törl (Zahn) pr. Kals, in iugo Plöcken (Pichler), in m. Kreuzberg retro Sexten (Huter); in v. Vennatal etc. ad iugum Brenner (Huter, Murr). — Carinthia: Ad Wolfsberg in v. Lavanttal (de Benz).

Variat: α) **genuinum** Zahn, foliis caulinis subsensim decrescentibus.

1) normale Z., foliis basin versus distincte dentatis. — Tirolia.

2) denticulatum Z., foliis subundulato-denticulatis v. subintegerrimis. — Tirolia.

β) **teischnitzense** Murr, Österr. bot. Zeitschr. 1903 p. 17, foliis caulinis abrupte decrescentibus; planta habitu *H. silvatici*. — In v. Teischnitz ad ped. m. Gross-Glockner (Huter).

Exsiccata: Fries, Hier. Europ. no. 105; Fl. Austro-Hung. 3374; C. H. Zahn, Hieracio-theca Europaea no. 290.

Tab. 227. *H. epimedium* Fr. ssp. *intybellifolium* A.-T. $\alphagenuinum, 2) *denticulatum* Z. (e v. Vennatal, leg. Murr). 1. Dentes ligularum. 2. Squama. 3. Pedunculus sub involucri.$

Subspecies **subepimedium** Murr et Zahn, apud Koch Syn. 1901 p. 1881. — Caulis ad 35 cm altus breviter subpilosus superne \pm floccosus subtenuis. Folia dilute viridia subglauescentia mollia, disperse, in margine nervoque dorsali et in petiolo mediocriter molliterque albopilosa, radicalia c. 4 elliptica obtusiuscula basi abrupte in petiolum contracta v. interiora elliptico-lanceolata acutiuscula, in petiolum longum fere haud alatum subdecurrentia v. basi cuneato-angustata, denticulata v. subdentata, pluridentata, basin versus leviter sinuato- v. inciso-dentata, dentibus saepe in petiolum descendentibus; caulina c. 3, inum sublonge petiolatum radicalibus simile, reliqua basi angustata sessilia parum amplexicaulia, basi dentata, summa 2 v. summum subtus subfloccosum, reliqua in nervo dorsali tantum subfloccosa v. effloccosa. Inflorescentia subdeterminata laxe paniculata suprafastigiata, acladio brevi v. ad 20 mm longo, ramis 3 (—5) erectis, ordinibus axium 3 (—4), capitulis 9 v. compluribus. Involucrum cylindrico-ovatum c. 8,5—8,5 (—10) mm longum, squamis angustis acutiusculis v. acutis, obscuris, anguste diluteque marginatis, subfloccosis, subglandulosis, disperse pilosis, pilis 2 mm longis dilutis, basi obscuris. Pedunculi tenuissimi modice glandulosi, canofloccosi, disperse pilosi. Flores saturate lutei, ligulae apice sparsim ciliatae, stylus obscurus, achaenia obscure rufo-brunnea.

Carinthia: Ad rupes m. Kočna vallis Barental in montibus Karawanken (de Benz); Helvetia: Ormonts (A. et C. Touton), Dt. de Ruth (Schröter et Wilczek).

Variat: $\alphagenuinum Zahn, Hier. d. Schw. 1906 p. 489; ut supra. — Carinthia; Helvetia: Ormonts: in alpe Léchéret, Dt. de Ruth. — C. 1600 m.$

$\betasubalpiniforme Zahn l. c. p. 490; foliis radicalibus ovatis submagnis, basi truncatis v. leviter cordatis, longe petiolatis apice rotundatis v. acutiusculis, folio caulino inferiore pedunculato, summo oblongo- v. elliptico-lanceolato, basi abrupte in petiolum brevissimum late alatum angustato v. sessili. — Helvetia: Col de la Croix inter Gryon et Ormonts (A. et C. Touton).$

Tab. 228. *H. epimedium* Fr. ssp. *subepimedium* M. et Z. $\alphagenuinum Z. (e loco classico, leg. R. de Benz). 1. Pedunculus sub involucri. 2. Squama. 3. Nervus dorsalis foliorum.$

124. **Hieracium Wimmeri** Uechtr., Österr. bot. Zeitschr. 1872 p. 277; Jahresb. schles. Ges. vaterl. Kult. 1884 p. 314; Fiek, Fl. Schles. (1881) p. 271; *H. anglicum* Wimm., Fl. Schles. ed. 3 p. 308 (1857), non Fr.; *H. pallescens* Fr., Epier. 1862 p. 94 p. p.; *H. pseudalbinum* Sagorski, in F. Sch., Herb. norm. cent. XXX no. 2964! (p. p.): = **iuranum—caesium** Zahn, Hier. d. Schw. 1906 p. 491.

Subspecies **Wimmeri** Uechtr. l. c. Caulis (12—) 20—35 (—60) cm altus gracilis v. subcrassiusculus flexuosus \pm distincte striatus, basi subpilosus (1 mm), medio plerumque subepilosus, apice subfloccosus et interdum sparsim glandulosus. Folia gramineo-viridia subrigidiuscula subpapyracea, subtus albido- v. canescenti-viridia, modice, marginem versus et in nervo dorsali densius pilosa, 0,5—1 mm, petioli pilis 1—2 mm longis mollibus subnumerosis obsiti; radicalia florendi tempore 2—3 (—5) virentia, elliptico- v. oblongo-lanceolata, in petiolum sublongum saepe inaequaliter subdecurrentia v. rarius sensim angustata, denticulata v. basin versus sinuato- vel inciso-dentata, interdum dentibus nonnullis grossis apice glanduloso-mucronatis munita, obtusius-

cula v. acutiuscula mucronata; caulina 2—3 (—4), subsensim v. \pm cito decrescentia, ima vulgo obliqua erecta radicalibus similia, brevius petiolata, petiolo late alato basi dilatato semiamplexicauli, reliqua late lanceolata basi angustata sessilia v. brevissime petiolata parum amplexicaulia, oblique v. saepe horizontaliter patentia, denticulata v. basi \pm dentata v. subincisa. Inflorescentia \pm indeterminata laxissime squarroso-ramosa saepe subaltefurcata, ramis (1—) 2—3 (—5) remotis, acladio 1—4 cm longo, ordinibus axium 3 (—4), capitulis (1—) 2—5 (—25). Involucrum 10—11 mm longum ovatum, squamis subangustis obtusis v. (intimis) acutiusculis, subatris, parum (viridi-) marginatis, modice subdense floccosis, disperse breviterque pilosis (pilis basi incrassatis atris), \pm dense glandulosis. Pedunculi superne cani \pm dense glandulosi subepilosi v. pilis sparsis obsiti. Flores \pm aureolutes, ligulis apice breviter ciliatis, stylis obscuris; achaenia castaneo-brunnea.

H. epimedio Fr. valde simile, sed etiam characteribus nonnullis *H. vulgatum* in mentem revocans.

In montibus Riesengebirge: Grosse et Kleine Schnee-grube, Kleiner Teich, Ziegenrücken, Weisswassergrund, Brumberg, Langer Grund (Fiek), Patschefall (Scholz), Elbgrund (Knaf), Melzergrube (Wimmer), Kesselkoppe, Kiesberg (Schneider). — Tatra: in v. Konratowa, in m. Giewont et Czerwony Wierch, inter m. Nory et Hávran (Rehmann), Grosser Fischsee, Késmárker Gruensee, Javoriner Schwarzsee, Kupferschächtental, in v. Mlinica (Sagorski), Poppersee (Pax). — Carinthia: Hühnerkaar pr. Wald in v. Gesäuse (Khek). — Formae intermediae inter *Wimmeri* et *intybellifolium* in v. Ahrntal (Treffer).

Tab. 229, Fig. A 1, 2. *H. Wimmeri* Uechtr. ssp. *Wimmeri* Uechtr. (ad lacum „Kleiner Teich“, leg. Schulz). 1. Squama. 2. Pedunculus sub involucrio.

Subspecies **wimmerioides** Zahn, in Schinz et Kell., Fl. d. Schw. ed. 2 II p. 332 (1905), Hier. d. Schw. 1906 p. 491; *H. Wimmeri* A.-T. et Briq., Nouv. not. flor. in Ann. Jard. bot. Genève 1899 p. 142; Briq., Bull. Soc. Murith. 1900 p. 71; Briq., Nouv. liste Eperv., Ann. Jard. Genève 1901 p. 162; nec Uechtr. — Caulis ad 35 cm altus subpilosus, superne \pm floccosus, gracilis. Folia radicalia petiolata ovata vel oblonga v. ovato-lanceolata, basi abrupte contracta subtruncata v. breviter in petiolum angustata, obtusiuscula v. breviter acuta, rigidiuscula, gramineo-viridia, supra glabrescentia, in margine nervoque dorsali et in petiolo modice v. subdense ciliata, 1—3 mm, denticulata v. subdentata v. basi grossius dentata; caulina 2—3, imum breviter alato-petiolum, radicalibus simile v. ut reliqua basi angustatum sessile subamplexicaule, medium et summum oblongo-lanceolatum v. lanceolatum longius acuminatum acutum. Inflorescentia subaltefurcata, acladio ad 25 mm longo, ramis 3 (—4) valde remotis erectis, strictis, ordinibus axium 3—4, capitulis paucis v. subnumerosis. Involucrum 9—10 mm longum ovatum, squamis lanceolatis subangustis magis acuminatis quam in ssp. *Wimmeri*, acutiusculis v. acutis, apice distincte barbulatis, subdense floccosis subglandulosis subpilosis. Pedunculi cani, subglandulosi, disperse pilosi. Ligulae saturate luteae, apice parum ciliatae, stylis brunnescentibus v. subobscuris; achaenia atrobrunnea.

Helvetia 1500—2000 m: In m. Grammont (Briquet, Zahn), Pacoteires supra Alesse (Besse), Simplon (Favrat); inter iugum Maloja et lacum Cavloccio (A. et C. Touton); in iugo Bonaudon supra Montreux (Jaquet); in alpihus Lemanensibus Sabaudiae, multis locis (J. Briquet).

Tab. 229, Fig. B. *H. Wimmeri* Uechtr. ssp. *wimmerioides* Zahn (in m. Grammont legi).

125. Hieracium segureum A.-T., Hier. Alp. fr. 1888 p. 90; Zahn, in Koch Syn. (1901) p. 1879; Hier. d. Schw. 1906 p. 490; = **iuranum—cirritum** Zahn l. c.

Hypophyllopodium v. phyllopodium. Caulis 20—50 cm altus plerumque breviter molliterque pilosus. Folia radicalia nulla v. compluria, obovata v. oblongo-lanceolata, cito sensimve in petiolum angustata, obtusa v. acuta; caulina 2—5 (—6) oblongo- v. elliptico-lanceolata v. lanceolata, ima in petiolum ± alatum angustata, reliqua ± panduriformia v. angustata, ± amplexicaulia, summa interdum anguste lanceolata, omnia dilute v. gramineo-viridia, subglaucescentia, per exsiccationem ± lutescenti-viridia, subtus pallidiora et ± leviter reticulato-venosa, supra breviter subpilosa, subtus magis pilosa, in margine nervoque dorsali et in petiolo subdense pilosa, 1—3 mm, leviter denticulata v. breviter dentata, rarius grosse dentata. Inflorescentia laxissime paniculata v. altefurcata, acladio 1—5 cm longo, ramis (1—) 2—4 (—6), inferioribus remotis, arcuato-erectis v. ± squarrosis, ordinibus axium 2—3 (—4), capitulis paucis v. 10 (—15). Involucrum 8—9,5 mm longum ovatum v. cylindrico-ovatum, squamis angustis, obtusiusculis v. (interioribus) acutis, atris, parum dilute marginatis, sparsim modiceve floccosis, disperse modiceve nigropilosis nigroglandulosisque. Pedunculi consimiles, cani. Flores intense lutei, stylus obscurus, dentes ligularum ciliati; achaenia brunneo-atra.

In ditione *H. cirriti*. — Delphinatus, Helvetia. — Flor. Iul., Aug.

1. Folia caulina 3—6; habitu *H. iurani* ssp. *iurani*.

Subspecies **segureum** A.-T. l. c. — Delphinatus 2000 m: Vallon de Ségure (A.-T.). — Helvetia: in pratis ad Salai in v. Ferpèche (Besse).

1* Folia caulina 2—3; habitu *H. integrifolii* Lange.

Subspecies **cirritiforme** Zahn, Hier. d. Schw. 1906 p. 490. Folia radicalia ovata v. oblongo-lanceolata, longe petiolata, pleraque in petiolum alatum subsensim contracta, mollia, ± acuta, glanduloso-denticulata; caulina 3, imum basin versus angustatum, basi petioliformi latissime alatum subamplexicaule, medium basi cito angustatum sessile, summum subparvum parum amplexicaule. Involucrum atrum, squamis angustis acutiusculis v. acutissimis, pariter ac pedunculi cani sat dense obscureque mollipilis subdense glandulosis, sed sparsim floccosis. — Habitu *H. epimedi*, capitulis ut in *H. cirrito*.

Helvetia: In m. Valserberg supra Hinterrhein c. 1950—2000 m (Zahn).

Tab. 230. *H. segureum* A.-T. ssp. *cirritiforme* Zahn (e loco classico). 1. Squama.

2. Pedunculus sub involuero.

Aliam subspeciem: **H. Salassorum** Z. e flora Valdostana, in Bull. Soc. Murith. XXXII 1903 p. 177 descripsi.

126. Hieracium rapunculoides A.-T. = **prenanthoides—vulgatum** Zahn; A.-T., Suppl. à Mon. 1876 p. 17; Hier. Alp. fr. 87; Zahn, in Koch Syn. (1901) p. 1885; in Hier. d. Schw. p. 492.

Caulis 30—100 cm altus strictus firmus saepe ± purpureus, gracilis v. crassiusculus, disperse v. submodice hirsutus, hypophyllopodus v. phyllopodus. Folia rosularia nulla v. pauca, rarius compluria, oblongo-lanceolata, in petiolum attenuata; caulina 6—12 (—15) ± remota, anguste v. late v. saepe rhomboideo-lanceolata, inferiora basin versus cuneato-angustata basi vix amplexicaulia, media minus angustata subamplexicaulia, summa consimilia v. basi lata sessilia, v. omnia subconformia, basi ovata subamplexicaulia et apicem versus brevius longiusve et sensim acuminata; omnia saturate viridia v. canescenti-viridia, subtus dilute canescenti-viridia

et distincte v. indistincte reticulato-venosa, supra subglabra et sublucida v. disperse pilosa, subtus disperse, in margine nervoque dorsali et in petiolo subdense v. disperse tantum pilosa, glanduloso-denticulata v. saepius + grosse serrato dentata, saepe colorata, plerumque rigida, summa subtus saepe subfloccosa. Inflorescentia paniculata, oligo- v. polycephala, ramis oblique erectis v. \pm patentibus, paucis v. numerosis, inferioribus saepe remotis, ordines axium 3—4 (—5), aeladium 10—25 mm longum. Involucrum (8—) 9—10 mm longum \pm ovatum, atroviride v. obscure canum, squamis obtusis v. acutiusculis, sublatiusculis v. subangustis, sparsim v. subdense floccosis, dense glandulosis, plerumque epilosis. Pedunculi consimiles, cani. Flores \pm saturate lutei, stylus obscurus, rarius initio subluteus, dentes ligularum plerumque breviter ciliati. Achaenia brunneo-atra v. subatra.

Delphinatus, Pedemontium, Helvetia. — Flor. Aug.—Sept.

Subspecies **rapunculoides** A.-T. l. c. Folia caulina ad 10 (—15) late rhomboideo-lanceolata; involucri et pedunculi dense glandulosa, epilosa v. rarissime pilis solitariis obsita.

α) **protractum** A.-T. l. c.; foliis caulinis superioribus basi ovata sessilia subamplexicaulibus, omnibus tantum denticulatis \pm glaucescentibus. — Sabaudia 1600—2000 m: Les Voirons (Chenevard), Pte d'Angolon, Sixt—Salvador, Crête de l'Airon, Servoz—Chalets d'Ayers (Briquet). — Pedemontium: in v. Cogne, Valsaravanche (Wilczek). — Helvetia: in iugo Simplon (Steiger). — Delphinatus: (A.-T.).

β) **intermedium** A.-T. l. c.; foliis anguste rhomboideo-lanceolatis v. oblongo-lanceolatis, vix subamplexicaulibus, breviter v. grosse dentatis. — Delphinatus (A.-T.).

a) *verum* Zahn, foliis breviter serrato-dentatis. — In alpinis Lemanensibus: Val d'Abondance (Briquet). — Ad lacum Combal (Vaccari), Argentières (Zahn). — Helvetia: Mont Chemin supra Volège 1350 m (Besse), Orsières \rightarrow Bg.-St.-Pierre (Wilczek); inter Arveye et Villars supra Bex (Bernoulli).

b) *trachelium* A.-T. in sched., foliis (praecipue caulinis) basin versus grosse dentatis; planta habitu *H. lycopifolii*. — Delphinatus (A.-T.); Helvetia: in alpe Tannenboden vallis Weisstannen (Meli).

Exsiccata: Hieraciotheca Gallia no. 95 (forma β , a).

Tab. 231. *H. rapunculoides* A.-T. ssp. *rapunculoides* β) *intermedium* b) *trachelium* A.-T. (Delphinatus: ad Gap, leg. Girod). 1. Squama. 2. Pedunculus sub involucri.

Subspecies **macrorrhombum** Zahn, in Schinz et Kell., Fl. d. Schw. ed. 2 II (1906) p. 336; *H. rapunculoides* δ) *subintermedium* Zahn, in Koch Syn. (1901) p. 1886. — Caulis ad 90 cm altus, crassus 10—16 foliatus indeterminato-ramosus polycephalus. Folia caulina magna, latissime rhomboideo-lanceolata, supra \pm glabra, subtus canescenti-viridia, rigida papyracea, subgrosse dentata. Involucrum 8—9 mm tantum longum, squamis angustis acutiusculis et acutis, exterioribus obtusiusculis.

Helvetia: inter Reidenbach et Jaun (Zahn), La Combaz supra Le Sépey (A. et C. Touton).

Tab. 232. *H. rapunculoides* A.-T. ssp. *macrorrhombum* Zahn (supra viam infra Kilchmoos versus Jaun legi). 1. Squama. 2. Pedunculus sub involucri.

127. Hieracium carpathicum Besser, Prim. Fl. Galic. II (1809) p. 154 no. 948; Fries, Epicr. 1862 p. 106; Rehmann, Öst. bot. Zeitschr. 1873 p. 218; nec Griseb., nec Rchb. — Wołoszczak, Fl. Pol. exs. no. 963! = **prenanthoides—ramosum** v. **caesium**.

Caulis ad 70 cm altus, hypophyllopodus, fistulosus, rigidus, simplex vel supra medium ramosus, striatus, inferne modice, superne \pm disperse pilosus (4—2 mm), usque ad medium deminute floccosus, saepe subflexuosus, gracilis v. crassiusculus, basi saepe obscure violaceus. Folia radicalia florendi tempore emarcida v. rarius 3—4 virentia, elliptico-lanceolata, basin versus longe attenuata alato-petiolata, exteriora saepe citius contracta obtusiuscula fere obovata vel apice breviter acuminata, caulina (3—) 8—12 (in planta culta ad 18) firma, supra saturate viridia, subtus pallidiora, utrinque breviter subpilosa v. praecipue superiora supra subglabra, subtus molliter subpilosa, in margine nervoque dorsali subdensius pilosa, ima saepe subappropinquata, basin versus longe attenuata petiolata, reliqua magis remota subpetiolata basi angustata, v. superiora basi truncata v. ovata sessilia subamplexicaulia, omnia \pm rhomboideo- v. elliptico- (media) v. subtriangulariter lanceolata, summa lanceolata v. linearia, in nervo dorsali subfloccosa, inferiora supra medium latissima breviter acuminata, media medio, superiora basin versus latissima, omnia denticulata v. (praecipue superiora) dentata v. basin versus inciso-dentata, dentibus apice glanduliformibus, nervis in foliorum parte superiore albidis, in parte aversa subprominentibus. Inflorescentia paniculata, ramis paucis v. ad 8 (—12) oblique patentibus dense floccosis sparsim tenuiterque pilosis apice ramulosis sublongis, ordinibus axium ad 4, acladio 5 ad 15 mm longo, capitulis paucis v. ad 25 (in planta culta ad 40). Involucrum 9—10 mm longum, crasse ovatum basi rotundatum denique truncatum, squamis latiusculis lanceolatis obtusiusculis obscuris apice barbularis breviter subpilosis (pilis obscuris apice dilutis), modice glandulosis, praecipue basi margineque submodice floccosis, interioribus viridi-submarginatis acutioribus. Pedunculi subgraciles cani breviter subglandulosi sparsim breviterque pilosi. Flores saturate lutei, ligulae apice sparsim breviterque ciliatae v. glabrae, stylus initio sordide luteus denique obscurus, achaenia badia.

In montibus Tatra Hungariae et Galiciae, p. e. in pratis ad pedem m. Nosal pr. Zakopane, ad Krokiew, pr. Biale, Strazyska, Brancka, Koscielisko (Rehmann), Hungaria borealis (Fritze!), in valle Eisseetal supra lacum Poppersee 1600 m, comitatu Szepes (de Degen), Csorba-tó (id.). — Flor. Aug.

Exsiccata: Wołoszczak, Fl. Pol. exs. 963!

Tab. 233. *Hieracium carpathicum* Bess. (in v. Eisseetal leg. A. de Degen). 1. Apex ligularum. 2. Squama. 3. Pedunculus sub involucre. 4. Nervus dorsalis foliorum superiorum.

128. *Hieracium calophyllum* Uechtr., Österr. bot. Zeitschr. 1874 p. 106: *prenanthoides*—*gymnocephalum* Zahn; *thapsiforme*—*prenanthoides* N. P. II p. 336.

Rhizoma crassum lignosum obliquum saepe subpluricaule. Caulis 40 ad 70 cm altus crassiusculus erectus saepe leviter flexuosus, subsulcato-striatus, aphyllopodus, basi violaceus, apice ramosus. Folia caulina 8—12 magna subappropinquata sensim decrescentia saturate viridia tenuia laxe albobilloso-lanata; ima 9—12 cm longa 3—4 cm lata obovato-oblonga v. oblonga v. oblongo-lanceolata, lingulata, obtusa v. obtusiuscula basin versus brevius longiusve attenuata subpanduriformia, basi ipsa dilatata sessilia subcordata semiamplexicaulia; media consimilia acutiora, superiora minora, e basi amplexicauli ovato- v. oblongo-lanceolata subacuminata, cito in bracteas parvas lineares glabras decrescentia, omnia integerrima v. subdenticulata, in margine haud raro leviter undulata. Inflorescentia laxissime paniculata \pm indeterminata, acladio 1,5—3 cm longo, ramis 3—5 (—6) remotis, gracilibus, flexuosis, squarrosio-erectis 1—4 cephalis, ordinibus axium 2—3 (—4), capitulis 3—9 (—20). In-

volucrum 11 - 12 mm longum, denique subglobosum, squamis latis linearibus acutis v. obtusiusculis subnigris viridi-marginatis apice subbarbatulis. Pedunculi subgraciles, 1—3 bracteis squamiformibus obsiti. Pili plumosi albi sericei, in involucrio fere semper nulli, in pedunculis nulli v. solitarii, in caulomatibus deorsum mox dispersi, inter folia maiora cito densiores, caulis basin versus densissimi 4—6 mm longi curvati, in foliis utrinque et in margine densissimi 4—6 mm longi sericei, sed color viridis foliorum translucens. Glandulae involucri densae saepe sublongae, in pedunculis superne subdensae longae atrae, deorsum cito diminutae, in superiore quarta caulis parte evanidae. Flocci in involucrio dispersi, in pedunculis superne tantum modice numerosi, deorsum cito nulli, reliqua planta effloccosa. Flores subdilate lutei apice vix ciliati, stylus luteus v. denique subobscurus, achaenia brunneo-lutea 4,5—5,2 mm longa.

Flor. Iulio—Aug.

Dalmatia meridionalis: Krivoscie pr. Crkvice 975 m (Pichler!), Montenegro: Tusine, Jastrebica in m. Bjelagora (Pančić, sub nom. *H. montenegrinum*), in saxosis ad Varda sub m. Kom Vasojevički (Baldacci!, Iter Alb.-Mont. VI no. 229^{bis}), in m. Vojnik (Rohlena).

Tab. 234. *Hieracium calophyllum* Uechtr. (in m. Vojnik, leg. J. Rohlena). 1. Apex ligularum. 2. Squama. 3. Pedunculus sub involucrio.

129. *Hieracium verbascifolium* Vill., Voyage 1812 p. 56: — **prenanthoides—lanatum**; *H. thapsifolium* Arv.-Touv., Monogr. 1873 p. 32; *tomentosum—prenanthoides* N. P. II (1889) p. 323.

Subspecies **thapsifolium** Arv.-T., Monogr. l. c.; *H. lamato-prenanthoides* A.-T. l. c. Rhizoma saepe pluricaule. Caulis 40 ad 70 cm altus crassiusculus erectus flexuosus intense striatus aphyllopodus, basi rubescens, profunde ramosus. Folia caulina 6—10 florendi tempore virentia sensim decrescentia, inferiora magna obovato-oblonga, basin versus ± attenuata saepe subpanduriformia, basi ipsa dilatata cordata ± amplexicaulia, acutiuscula mucronata v. acuta, tenuia, lutescenti-viridia, integerrima v. obsolete denticulata, superiora basi lata cordata amplexicaulia, summa angustiora lanceolata acuminata. Inflorescentia laxa paniculata indeterminata; acladium ad 25 mm longum, rami primarii ad 8 remoti graciles oblique patentes, inferiores elongati foliosi apice ramulosi; ordines axium 3, capitula 8—20. Involucrum 10—11,5 mm longum denique globosum subdepressum, squamis latis lineari-lanceolatis obtusis subnigris, late diluteque marginatis, apice barbulatis. Pili ubique densi diluti molles, in involucrio 1,5 mm, in caulomatibus 2 mm longi, deorsum densissimi (3—4 mm), in foliis 1—1,5 mm longi, semiplumosi. Glandulae in involucrio dispersae, in pedunculis apice modice numerosae, deorsum sparsae minutaeque. Flocci in involucrio sparsi, in pedunculis subdensi, deorsum diminuti et mox subevanidi. Flores lutei, ligulis apice breviter ciliatis, stylis subobscuris; achaenia brunnea. — Iul.-Aug.

Delphinatus: Col du Lautaret, Mont Genève pr. Briançon etc. 1600—1950 m, in pinetis (Arv.-Touv.), Monétier-les-Bains (A. Faure).

Exsiccata: Zahn, Hieraciotheca Europaea no. 81 (Puy Jaunnas pr. Monétier-les-Bains 1600 m, leg. A. Faure).

Tab. 235. *H. verbascifolium* Vill. ssp. *thapsifolium* A.-T. (leg. A. Faure). 1. Apex ligularum. 2. Squama. 3. Pedunculus sub involucrio. 4. Pilus.

Subspecies **menthifolium** Arv.-Touv., Notes pl. alp. p. 22 et Exsicc. Soc. dauph. no. 478^{bis} (1886); N. P. II p. 327; *H. melandryfolium* A.-T., Soc. dauph. Exsicc. no. 478 et Bull.

Soc. dauph. I p. 18; Monogr. 1873 p. 34 p. p., non Notes pl. alp. p. 22. Rhizoma saepe pluricaule. Caulis 28—40 cm altus gracilis v. subtenuis striatus parum flexuosus, aphyllopodus, apice ramosus, basin versus violaceus. Folia caulina 5—8, inferiora oblonga elongata basin versus distincte attenuata, sequentia \pm oblonga, basi cordata amplexicaulia sessilia, superiora ovata basi lata cordato-amplexicaulia, omnia acutiuscula v. acuta, sensim decrescentia, praecipue infra medium denticulata vel irregulariter serrato-subdentata, dilute viridia, subrigidiuscula. Inflorescentia laxa paniculata, indeterminata; acladium 10—30 mm longum; rami primarii 2—5 graciles v. tenues, oblique patentes; ordines axium 2—3, capitula (2—) 5—12. Involucrum 10—11 mm longum ovatum basi subtruncatum, squamis latiusculis linearibus acutiusculis atris dilute marginatis. Pili in involucrio densi diluti, basi atri, 1—1,5 mm longi, in caulomatibus densi, 2 mm longi, caulis basin versus densissimi longioresque, in foliis utrimque et in margine densissimi molles, 2—2,5 mm longi, ubique longe dentati v. semiplumosi. Glandulae involucri dispersae, in pedunculis superne dispersae v. submodice numerosae, deorsum mox evanidae. Flocci in involucrio numerosi (involucrum \pm albido-canum), in pedunculis densi, deorsum cito diminuti. Flores saturate lutei, ligulis apice breviter ciliatis, stylo subobsuro; achaenia rubro-brunnea.

Delphinatus: Col du Lautaret: Vallon des Roches Noires 2100 m, aux Trois-Evêchés, au Galibier etc. (Arv.-Touvet), Monétier-les-Bains 1800 m (A. Faure).

Exsiccata: Soc. dauph. no. 478! et 478^{bis}!; Zahn, Hieraciotheca Europ. no. 82.

Tab. 236. *H. verbascifolium* Vill. ssp. *menthifolium* A.-T. (Quartier du Reboisement pr. Monétier-les-Bains, leg. A. Faure). 1. Apex ligularum. 2. Squama. 3. Pilus.

Adnotatio: Tabulae nostrae 235 et 236 demonstrant individua *H. verbascifolii*, quae caulibus lateralibus tantum foliosis v. saepius floriferis e gemmis vulgo clausis perhiemantibus enatis praedita sunt. Hoc non solum aphyllopodorum sensu strenuo sed etiam formarum aphyllopodarum inter phyllopoda et aphyllopoda intermediarum proprium est gemmas superiores ante tempus cauligeras evolvere.

130. Hieracium argoethrix N. P. II p. 303 (prenanthoides-villosum) — **lanatum** = *valdepilosum*—*lanatum*; *H. tomentosum* — (*villosum-prenanthoides*) N. P. I. c.

Subspecies **argoethrix** N. P. II p. 305. Caulis 20—40 cm altus erectus v. basi obliqua, crassiusculus, \pm flexuosus, hypophyllopodus v. phyllopodus, supra medium ramosus. Folia radicalia florendi tempore emarcida v. 1—2 tantum virentia submagna subrigidiuscula dilute viridia oblonga acutiuscula, basin versus sensim angustata petioliformia, obsolete denticulata; caulina 6—9 sensim decrescentia, inferiora submagna oblonga basin versus angustata sessilia subpetiolata vel anguste subpanduriformia basi latiora sessilia, \pm acuta subintegerrima vel \pm remote denticulata, media oblonga v. elliptica v. ovata basi subangustata v. rotundata sessilia, superiora basi saepe \pm cordata. Bractee subparvae subfoliaceae lanceolatae. Inflorescentia albefurcata indeterminata, acladio 3—5 cm longo, ramis primariis 3—4 remotis crassiusculis oblique erectis, ordinibus axium 2—3; capitula 2—5 (—6). Involucrum 14—15 mm longum globosum, squamis per indumentum suboccultis, angustis v. sublatiusculis acutissimis subnigris immarginatis, exterioribus laxis. Pili subplumosi albi sericei ubique densissimi, in involucrio 3—4 mm, in caulomatibus ad 8 mm, in foliorum marginibus ad 5 mm longi. Glandulae in involucrio sparsae v. subnullae, in pedunculis subnullae. Flocci in caulomatibus

superne densissimi albi, deorsum sensim deminuti. Flores lutei, ligulis apice ciliatis, stylo subobscurus. Achaenia obscure brunnea. — Flor. Iulio.

Hab. in valle Casterino di Tenda in Alpibus Maritimis Italiae superioris, c. 1600 m (Bicknell) et pr. Limone ad iugum Col di Tenda 1500—2000 m (Naegeli).

Tab. 237. *H. argothrix* N. P. ssp. *argothrix* N. P. (in v. Casterino leg. C. Bicknell). 1. Apex ligularum. 2. Squama. 3. Pedunculus sub involucri. 4. Pilus.

Subspecies **floccosum** A.-T., Suppl. Monogr. Hier. Dauph. 1874 p. 11; Hierac. Alp. franç. 1888 p. 57; *H. tomentosum* ssp. *floccosum* N. P. II p. 281. Caulis 30—60 cm altus crassiusculus v. crassus subflexuosus striatus phyllopodus v. hypophyllopodus. Folia rosularia 0—5 elliptico-lanceolata v. oblonga acuta, basin versus in petiolum distinctum saepe subbrevem sensim attenuata, remote denticulata vel subintegerrima, rarius ± dentata; caulina 3—6 sensim decrescentia; ima radicalibus similia, media elliptica basi angustata sessilia, v. ovato-lanceolata basi vix amplexicaulia, superiora basi latiora v. parum amplexicaulia sessilia subacuminata acuta undulato-marginata denticulata v. subdentata cito in bracteas decrescentia. Inflorescentia albefurcata indeterminata, acladio 3—8 cm longo, ramis primariis 2—3 remotis crassiusculis oblique v. subarcuato-erectis, ordinibus axium 2—3; capitula (2—) 3—6. Involucrum 12 mm longum denique globoso-ovatum, squamis sublatiusculis longe attenuatis acutis subatris per indumentum haud occultis, exterioribus laxis. Pili subplumosi ubique densissimi mollissimique, diluti, in involucri 3—4 mm, in caulomatibus superne 2—3,5 mm, deorsum ad 4 mm longi, in foliis consimiles. Glandulae¹⁾ in involucri pedunculisque sparsae. Flocci²⁾ in involucri basin versus dispersi, in pedunculis densi, deorsum sensim deminuti. Flores dilute lutei, ligulis apice ciliolatis, stylo subobscurus. Achaenia atrobrunnea. — Iulio, Aug.

Hab. Delphinatus: Col du Lautaret, compluribus locis (Arvet-Touvet); Basses-Alpes: in convallibus fl. Larche et Lauzanier (id.). 1600—2200 m.

Arvet-T. l. c. duas formas distinguit:

- a) latifolium, foliis caulinis late ovato-lanceolatis v. oblongis, indumento in tota planta paulo magis lanato-pellito glandulis in involucri pedunculisque sparsissimis.
- b) angustatum, foliis caulinis anguste ovato-lanceolatis v. lanceolatis, indumento minus lanato, glandulis in pedunculis magis evolutis.

Exsiccata: Soc. Dauph. no. 1286; Hieracith. Gallica no. 61; F. Schultz, Herb. norm. no. 2460.

Tab. 238. *H. argothrix* N. P. ssp. *floccosum* A.-T. b) *angustatum* A.-T. (in iugo Lautaret leg. A. et C. Touton). 1. Squama. 2. Pedunculus sub involucri. 3. Apex ligularum.

131. Hieracium Fritzei F. Schultz, in F. Schultz et Winter, Herb. norm., cent. I no. 91 (1872); Arv.-T., Essai de classif. 1880 p. 7; Zahn, in Koch Syn. (1901) p. 1886; *H. alpinum foliosum* Tausch, in Flora 1828, Erg.-Bl. I p. 63; Wimmer, Fl. Schles. ed. 3 (1857) p. 306 p. p.; *H. sudeticum* Tausch, in Flora 1837, Erg.-Bl. p. 68; *H. montanum* G. Schneid., Österr. bot. Zeitschr. 1886 p. 21, non N. P.; *H. polymorphum* G. Schneid., Jahresber. schles. Ges. vaterl. Kult. 1885; Österr. bot. Zeitschr. 1887 p. 240 et in Sag. et Schneid., Flora Carpat. centr. II

¹⁾ A cl. N. P. haud visae.

²⁾ „Flocci ubique nulli“ describunt N. P. l. c.

p. 327 (1891); an *H. personatum* Fr., Epicr. p. 45? — **prenanthoides** < **alpinum** Zahn, in Koch Syn. 1901 p. 1886.

1. Caulis monocephalus.

Subspecies **spathulifrons** Zahn; *spathulifolium* G. Schneid., Österr. bot. Zeitschr. 1837 p. 274, nec Vukot., Hier. Croat. 1858 p. 7. Caulis 12—18 cm altus monocephalus, ubique pilis dilutis ± copiose v. mediocriter vestitus, in parte superiore glandulis subnumerosis longis brevioribus permixtis et setis 2—2,5 mm longis nigris ± copiosis adpersus, apice dense floccosus vel tomentosus, deorsum deminute floccosus sparsim glandulosus, basin versus effloccosus. Folia viridia submollia, utrimque subdense, margine dense pilosa (1,5—2,5 mm), disperse breviterque glandulosa; radicalia pauca, vulgo 2 florendi tempore virentia oblongo-lanceolata, in petiolum longum alatum angustata, obtusiuscula mucronulata vel late spathulata et in petiolum late alatum sensim decurrentia, obtusiuscula, apice saepe plicata, omnia denticulata v. subdentata; caulina 2—4, inferiora (v. tantum imum) foliis basilaribus similia, haud raro ± petiolata, reliqua valde minora, lanceolata, basi angustata sessilia v. breviter petiolata, saepissime integerrima, acuta. Involucrum c. 15 mm longum cylindrico-ovatum v. fere turbinatum ± dense canescenti-villosum (2,5—3 mm) parcefloccosum, squamis latiusculis v. angustis obtusiusculis nigrescentibus, in series paucas dispositis. Stylus ± obscurus, flores aureo-lutei, ligulis apice subdense ciliatis.

Variat: 1) normale G. Schneid. l. c. — In montibus Corconticis 1300—1450 m: Brunberg, Koppenplan, Auparand, Kleine Koppe, Teichränder, Hohes Rad, Krkonoš (G. Schneider). — Tatra: in vallibus Felkertal (id.) et Kleines Kohlbachtal: Seewand (Sagorski).

2) stylosum G. Schneid. l. c., foliis integerrimis, floribus abbreviatis stylis exsertis. — Brunberg 1450 m (G. Schneid.).

Subspecies **Uechtrizianum** G. Schneid., Österr. bot. Zeitschr. 1886 p. 23. Caulis (8—) 15—30 cm altus gracilis v. crassiusculus parum flexuosus monocephalus, apicem versus pilis 1,5—2 mm longis obscurioribus, deorsum pilis dilutis 3 mm longis, ± densis vel mediocribus vestitus, sursum glandulis longis setisque nigris adpersus et apice dense, deorsum deminute, basi sparsim floccosus. Folia viridia vix glaucescentia, firma v. subcoriacea, utrimque ± modice pilosa (1 mm, in margine 2 mm), disperse breviterque glandulosa; radicalia florendi tempore haud raro nonnulla (ad 6) virentia, ovata v. spathulato-ovata, interiora saepe suboblonga, omnia apice rotundata v. obtusa, vulgo mucronata, saepe plicata, integerrima vel subdenticulata; caulina 3—6 sensim decrescentia, inferiora radicalibus similia, reliqua vulgo late lanceolata, basi paulo angustata sessilia, v. summa subamplexicaulia, media obtusa v. obtusiuscula, summa acutiuscula v. acuta, omnia oblique erecta subdenticulata v. integerrima. Involucrum (13—) 14—15 mm longum globosum denique basi saepe subtruncatum, pilis dilutis 2,5—3 mm longis basi nigris ± densis obsitum, sparsim breviterque glandulosum, disperse floccosum, squamis multiseriis latiusculis obtusiusculis nigrescentibus, intimis acutis saepe dilutioribus v. dilute marginatis, exterioribus sublaxis raro foliaceis. Flores aureo-lutei, stylo luteo v. luteolo, per exsiccationem saepe obscuriore, ligulis sparsim breviterque ciliatis.

Variat: 1) normale G. Schn. l. c. — In montibus Asciburgensibus: Auparand, Weisse Wiese, Kleiner Teich, Grosser Teich, Krkonoš (G. Schneider). — Tatra: Ad lacum Késmarker Gruensee et in m. Kriván (Sagorski).

2) *stylosum* G. Schneid. l. c. — Floribus abbreviatis stylosis. — Auparand, Grosser Teich (G. Schneider).

1*. Caulis 1 = oligocephalus.

Subspecies **Fritzei** F. Schultz l. c.; *H. alpinum* 2) *debile* Rehmman, Österr. bot. Zeitschr. 1873 p. 184 p. p. Caulis (8—) 12—18 (—25) cm altus, rectus vel paulum flexuosus, tenuis v. gracilis, 1—3 (—10) cephalus, apicem versus pilis subobscuris deorsum dilutionibus, basi incrassata nigris modice vestitus, sursum glandulis brevibus longioribus permixtis et floccis densis obsitus, deorsum deminute glandulosus floccosusque. Folia subglauescentia modice pilosa (2—3 mm), disperse breviterque glandulosa; radicalia florendi tempore fere semper emarcida, raro virentia, caulina 2—6 oblongo- vel lineari-lanceolata acuta v. acutiuscula, inferiora in petiolum sublongum angustata v. subsessilia, infima ± distincte dentata, superiora integerrima, omnia oblique distantia. Inflorescentia furcata, ramis remotis plerumque monocephalis. Involucra 10—15 mm longa globosa vel ± ovalia subdense pilosa (2—2,5 mm), sparsim floccosa glandulosaque, squamis multiseriatis angustis acutis v. acutiusculis, nigrescentibus, intimis subdilute marginatis. Pedunculi subglandulosi ± dense pilosi, superne dense, inferne modice floccosi. Flores aureo-lutei, ligulis dense breviterque ciliatis, stylo fuliginoso v. luteolo, rarius luteo.

Variat: 1) *angustius* G. Schneid. l. c., plerumque monocephalus; foliis caulinis lineari-lanceolatis basin versus angustatis, acutis, rarius apice obtusiusculis, fere semper integerrimis, rarius obsolete denticulatis; involucris ovalibus 10—11 (—12) mm longis. — Variat: a) *verum*, ligulis evolutis, b) *stylosum*, stylis ex tubo exsertis, c. *calvescens*, foliis calvescentibus.

2) *latius* G. Schn., capitulis 1—3 (—10); foliis caulinis oblongo-lanceolatis acutiusculis v. acutis, rarius rotundatis, inferioribus in petiolum alatum sublongum attenuatis, mediis summisque basi angustata sessilibus, inferioribus ± distincte dentatis, summis integerrimis; involucris ovalibus v. semiglobosis 12—13 (—15) mm longis. — Variat: a) *verum*, ligulis evolutis, b) *stylosum*, stylis exsertis.

Hab. in toto montium Asciburgensium tractu, 1000—1600 m, e. g.: Neue schlesische Baude. Pantschewiese, Elbwiese, Kesselkoppe, Weisse Wiese, Weisswassergrund, Rehhorn, Grosse Schneeegrube [f. *calvescens*] (G. Schneider, Pax, Sagorski, Domin etc.). — Tatra: Kriván, Polnische Fünfseen, Grosses und Kleines Kohlbachtal, Késmarker Gruensee, Treppchen, Kondratovatal, Czerwony wierch, Furkotatal, Csorba-Poppersee 1480 m, Steinbachsee, Lomnitzer Spitze, Granatenwand 1800 m (*stylo luteo* et *obscurio*), Giewont, Kondracza 2000 m, in v. Mlinica, Blumengarten, Rohacs potok (Rehmman, Wołoszczak, Czako, Sagorski, Kotula, de Degen etc.). — Lysá hora (Domin). — Hungaria: Com. Hunyad: Retyezát [Vurfu Pelaga, f. *latius*] (de Degen), in m. Dreksano pr. Kimpulujnyag (id.). — Bucovina: In cac. m. Giumalei 1800 m (Wołoszczak). — Babia góra Bescidarum (Wol.). — In m. Gorgan Ilemski ad fl. Swica (id.).

Exsiccata: F. Schultz et Wint., Herb. norm. cent. I no. 91; Magnier, Fl. sel. 2240.

Tab. 239, Fig. A. 1—3. *H. Fritzei* F. Sch. ssp. *Fritzei* F. Sch. 1) *angustius* G. Schneid. (in m. Babia góra, leg. Wołoszczak). 1. Squama (apex). 2. Pedunculus sub involucro. 3. Apex ligularum.

Subspecies **pseudopersonatum** G. Schneid., Österr. bot. Zeitschr. 1886 p. 23; an *H. personatum* Fr., Epicr. l. c.?: *H. alpinum* 2) *debile* Rehm. l. c. p. p. Caulis 10—35 cm altus saepe subflexuosus, crassiusculus v. gracilis, raro crassus, 1—4 cephalus, sursum pilis 4—5 mm longis obscurioribus, basi incrassatis nigris, deorsum basin versus dilutis, apice setis nigris glandulisque immixtis ± dense vestitus et sat dense, deorsum subfloccosus. Folia subglaucescentia, utrinque ± dense pilosa (2 mm) disperseque glandulosa: radicalia florendi tempore emarcida v. pauca, fere semper tantum in roslis secundariis virentia: caulina 3—6 sensim decrescentia, inferiora oblongo-lanceolata, in petiolum brevem angustata, reliqua lanceolata basi subangustata sessilia, omnia obtusa v. acuta, integerrima vel subdenticulata rarius subdentata, oblique distantia. Inflorescentia furcata, ramis primariis valde remotis monocephalis. Involucra globosa v. subventricosa denique saepe subtruncata, 12—17 mm longa, dense villosa, pilis ad 3 mm longis obscuris apice dilutis, sparsim glandulosa, disperse v. modice floccosa, squamis multiseriatis vix unquam foliaceis, latiusculis acutiusculis, nigrescentibus, intimis vulgo dilutioribus. Pedunculi crassiusculi, pilis ad 6 mm longis nigrescentibus, setisque nigris et glandulis subnumeris praediti, apice dense floccosi. Flores aureo-lutei, ligulis apice breviter ± ciliatis, stylo aureo-luteo, rarius obscuriore.

Variat: 1) normale G. Schneid. l. c., ligulis evolutis.

- a) *verum*, stylo luteo. — In montibus Asciburgensibus: Koppenplan, Auparand, Weisse Wiese, Melzerlehne, Kleine Sturmhaube, supra Grosser et Kleiner Teich, Kleine Koppe, ad fl. Lomnitz supra Melzergrund, Schlingelbaude. (800—) 1000—1420 m (Sagorski, G. Schneider).
 - b) *obscuristylum*, stylo obscuriore. — In Sudetis orientalibus: Glatzer Schneeberg (Oborny), Dürre Koppe (Formanek). — Tatra: Kriván, Grosses et Kleines Kohlbachtal, Késmarker Gruensee, Zamki et Schwarzwierch (Rehmann). — Retyezát in com. Hunyad Hungariae (Czako).
- 2) *macrostylon* Tausch, in Flora 1837, Erg. B. p. 68; *stylosum* G. Schneid. l. c.; stylo ex tubo longe exserto. — Kleine Koppe 1000—1350 m, Auparand, Koppenplan, Kiesberg, Melzerlehne, Kleiner Teich, Rehhorn (G. Schneid., Pax). — Késmarker Gruensee (Sagorski).

Tab. 239, Fig. B, 4. *H. Fritzei* F. Sch. ssp. *pseudopersonatum* G. Schneid. 2) *macrostylon* Tausch (prope Spindlerbaude leg. A. Schultz). 4. Squama.

132. Hieracium riphaeum Uechtr., Österr. bot. Zeitschr. 1872 p. 41; Fieck. Fl. Schles. 1881 p. 282; = **prenanthoides** > **alpinum** Zahn, in Koch Syn. 1901 p. 1888.

Caulis (15—) 20—30 (—40) cm altus, subgracilis vel tenuis, indistincte vel haud striatus, supra basin haud raro rubescens, scabriusculus, disperse, basin versus densius pilosus 1—2 mm), pilis basi atris obscurisve, caulis basin versus tantum omnino dilutis, superne sparsim floccosus, deorsum cito effloccosus, praecipue apice sparsim glandulosus vel subeglandulosus, aphyllipodus, raro per rosulas sessiles perhiemans. Folia radicalia spathulato-lanceolata in petiolum latum angustata, subdense pilosa, in margine sparsissime glandulosa, florendi tempore fere semper emarcida; caulina (4—) 5—6 (—8) sensim decrescentia subrigida v. mollia, intense viridia, subtus subpallidiora vix vel indistincte reticulato-venosa, subglaucescentia, utrinque modice, in margine densius pilosa 0.5—1 mm, in margine 1—1.5 mm)

et sparsissime glandulosa, saepe truncis pilis scabra, subremota; ima (florendi tempore plerumque emarcida) subspathulata in petiolum late alatum semiamplexicaulem angustata, rarissime attenuata subpanduriformia, remote et obsolete denticulata, obtusiuscula v. acutiuscula; media oblongo- v. interdum sublate lanceolata basi rotundata, superiora obovato-lanceolata, basi truncata semiamplexicaulia, media superioraque sensim acuminata, summa in nervo dorsali v. interdum in tota parte aversa disperse floccosa, v. effloccosa, omnia oblique distantia basi nunquam cordata, media superioraque obsolete denticulata, dentibus subappropinquantis glanduliformibus, raro repando- vel sinuato-dentata et dentibus apice longe glanduliformibus munita. Inflorescentia plerumque determinata rarius indeterminata, laxe paniculata subsuprafastigiata: rami primarii 1—4 (rarissime —10), superiores conferti, inferiores (interdum valde) remoti; ordines axium 2—3 (—4); capitula (1—) 2—4 (rarissime —15); acliadium (5—) 10 mm longum. Involucrum 10—11 (—12) mm longum ovatum vel semiglobosum, basi denique subtruncatum, pilis c. 2 mm longis canescentibus basi atris glandulisque brevibus atris modice v. \pm dense vestitum. Squamae latiusculae obtusiusculae v. obtusae obscurae, sparsim, in margine et praecipue basin versus submodice floccosae, interiores sordide atro-virides, in dorso subatrae. Bracteae 1—3 subulatae. Pedunculi ramique pilis canescentibus basi atris glandulisque subnumerosis obsiti, superne subcanofloccosi, floccis usque ad caulis medium descenditibus sed deorsum valde deminutis. Flores aureolutei plerumque haud lingulati, sed abbreviati tubulosi apice in dentes longos sparsim ciliatos vel subglabros lacerati, stylis obscuris longe exsertis. Achaenia initio rubro-, denique atrobrunnea v. atra.

In montibus Asciburgensibus Sudetorum endemum: Kiesberg 1240 m, Auparand, Brumberg, Wörllichgraben, Schneeegraben (Fiek), Blaugrund (Junger), Langer Grund, Ziegenrücken, Melzergrund (Zimmermann), Kesselkoppe (Frey), Krkonoš (G. Schneider), Weisse Wiese, Kleiner Teich (Sagorski, Oborny).

Exsiccata: Fl. Austro-Hungarica no. 3385.

Tab. 240. *H. riphaeum* Uechtr. (in monte Kiesberg leg. Fiek). 1. Squama. 2. Pedunculus sub involucrio. 3. Flos. 4. Margo foliorum. 5. Nervus dorsalis folii caulini superioris.

Adnotatio: Formas intermedias inter *H. prenanthoides* et *H. alpinum* sub nomine colectivo *H. sudeticum* Sternb., Denkschr. Regensb. Ges. 1818 II 2 p. 62 **prenanthoides—alpinum** in Koch Syn. 1901 p. 1887 induxi. Huc pertinent subspecies *H. pedunculare* Tausch in Flora 1828 Erg.-Bl. p. 76 et Reichb. Icones XIX tab. 145, fig. 3, 4, *H. bohemicum* Fr., Epier. 1862 p. 47 et Reichb. l. c. tab. 153 (sub nom. *H. carpathicum* Wimm.), *H. Javor-kæ* Zahn et *H. maramarosiense* Zahn, V. Beitr. Kenntn. Hier. Ung. Balkanl. in Mitt. Ung. Nat.-Museum 1910.

133. Hieracium nigrum Uechtr., Jahresb. schles. Ges. nat. Kultur 1872 et 1875 p. 23. Österr. bot. Zeitschr. 1873 p. 358; *H. nigrescens* β) *pulmonarium* Wimm. (Grab.); *H. nigrescens* β) *multiflorum* Wimm., Fl. Schles. ed. 3 p. p.; *H. amplexicaule* Tsch., Pl. sel. Bohem. fasc. I.; *H. epimedium* Čelak. 1884, nec Fr. — Iul.-Aug.

Subspecies **nigrum** Uechtr. l. c. — Caulis (10—) 20—30 (—35) cm altus strictus \pm crassiusculus v. gracilis, cavus, saepe flexuosus, obsolete striatus, scabriusculus, basi interdum brunneo-ruber v. rubro-maculatus, modice v. subdense pilosus v. subglaber, pilis dilutis mollibus 1—2 mm longis caulis basin versus saepe longioribus, superne tenuiter glandulosus et disperse modiceve floccosus, floccis glandulisque fere usque ad caulis basin dispersis.

Folia sordide viridia, utrimque modice v. subdense, in margine nervoque dorsali densius pilosa, rarius in parte superiore subglabra, pilis mollibus 0,5–1 mm, in margine petioloque 1,5–3 mm longis, praeterea in margine disperse glandulosa; petioli subvillosuli. Folia radicalia florendi tempore (1—) 3–4 (—8) virentia late lanceolata v. oblonga, saepe subrhomboidea, utrimque attenuata, longe petiolata, lamina basi a petiolo distincta subdecurrentia, vel in petiolum late alatum brevem sensim angustata, plerumque irregulariter denticulata vel dentata, interdum dentibus nonnullis maioribus apice vulgo longe glandulosis munita, apice rotundata obtusa v. interiora maiora acuta saepe \pm plicata; caulina (1—) 2–3 (—8) plerumque submagna sensim decrescentia, imum breviter petiolatum petiolo alato basi subamplexicauli (rarius longe petiolatum), media superioraque semiamplexicaulia v. (rarius amplexicaulia vel sessilia, oblongo-rhomboidea, inferiora \pm dentata, media superioraque oblique distantia, haud raro supra basin dentibus nonnullis grossioribus praedita, apicem versus tantum denticulata v. \pm integerrima, omnia acuta, summa interdum in nervo dorsali tantum subfloccosa. Inflorescentia indeterminata laxe paniculata, acladium 10–20 (—40) mm longum, rami primarii (0—) 1–2 (—3 v. complures) saepe ex omni ala orti, inferiores valde remoti plerumque erecti v. \pm arcuato-ascendentes, foliosi, saepissime 1–2 cephalii, interdum caules laterales evoluti; ordines axium 1–2, capitula (1—) 2–6 (—12). Involucrum (10—) 11–12 (—13) mm longum ovatum v. subsemiglobosum basi semper subrotundatum, pilis modice numerosis obscuris v. subatris 1,5–2 mm longis, glandulis densis floccisque sparsis obtectum. Squamae sublatiusculae acutiusculae, exteriores saepe obtusiusculae, subnigrae vix dilutius (atro-viridi-) marginatae, interiores angustiores dilutiores dilute marginatae, intimae acutae. Pedunculi subcrassiusculi plerumque stricti pariter ac caulomata subdense pilosi, pilis rigidiusculis obscuris v. subatris, dense glandulosi et canofloccosi. Bractee 1–3 lineares. Flores intense aureolutei, ligulis apice breviter ciliatis, stylis obscuris. Achaenia brunneo-atra.

In montibus Asciburgensibus Sudetorum 12–1450 m, e. g.: Ad lacus Grosser et Kleiner Teich (Hirte, Kleine Koppe 1350–1400 m, Melzerlehne, Kleine Schneegrube (Domin), Kiesberg (Fiek), Aupafall (Tausch); in Sudetis orientalibus: Hockschar, Altvater, Schäferheide, Brünnelheide, Backofensteine, Köpernikstein pr. Goldenstein 1450 m (Oborny), Glatzer Schneeberg (Tausch! sub nom. *amplexicaule*), Hohe Heide versus Auerhahnbaude 1300 m (Freyn). — Tatra: Weisswassergrund infra lacum Késmárker Grünsee et inter Grünsee et Kupferschächtental (Sagorski), in valle Furcota ad Csorba (de Degen), Polnischer Kamm (Ade). — Czorna hora Carpathum: Inter Mughos ad Zaróslak sub m. Hoverla, in m. Forasek (Wołoszczak), Pański Grun in m. Guretwyn ad fl. Łomnica (id.); Bukowina: in cacumine m. Muncel pr. Rareu, solo schist. 1590 m (id.). — Stiria: Häuselealp in m. Hochschwab (de Benz).

Variat: α) **genuinum** Zahn, Koch Syn. 1901 p. 1890, squamis latiusculis \pm obtusis, involucro subeffloccoso. — Kleiner Teich etc.

β) **erioline** Borbás in sched. et apud Zahn l. c., *H. silvatico* magis affine; squamis angustis acutiusculis v. acutis subfloccosis, involucro subdense canescenti-piloso. — Hockschar (Oborny).

Exsiccata: Callier, Fl. Siles. exs. no. 408; F. Schultz, Herb. norm. cent. XIX no. 1818; Zahn, Hieracioth. Europ. no. 294.

Tab. 241, Fig. A. 1, 2. *H. nigratum* Uechtr. ssp. *nigratum* Uechtr. (Grosser Kessel in montibus Gesenke, leg. Oborny). 1. Squama. 2. Pedunculus sub involucro.

Subspecies **pseudostygium** Wot., Przyczynek do flory Pokucia (in Sprawozdan Komisyi fizyograficznej Akademii Umiejętności, tom. XXI 1887 p. 128). — Caulis solidus ad 40 cm altus \pm flexuosus gracilis, basi purpurascens, breviter pilosus v. glabrescens, usque ad basin deminute floccosus, rubescenti-maculatus. Folia obscure viridia saepe subglaucescentia, firma, utrimque et praecipue in margine nervoque dorsali pilis albidis sparsis obsita, supra glabrescentia, ad basin dentibus glanduloso-terminatis paucis remotis acutis instructa, oblonga v. oblongo-lanceolata, in basin villosulam contracta; radicalia compluria, florendi tempore plerumque partim emarcida c. 2 virentia ad 12:3.3 cm longa, utrimque aequaliter attenuata, petiolata, acuminata acuta, denticulata v. basin versus 2—3 dentibus grossis munita; caulina 4—5, imum petiolatum, sequentia subpetiolato-angustata basi parum amplexicaulia, sursum brevius angustata basi distinctius semiamplexicaulia, summa lineari-lanceolata v. linearia basi angustata semiamplexicaulia. Inflorescentia laxe paniculata, acladium c. 20 mm longum, rami primarii 3 (—4) remoti oblique patentes, superiores \pm erecti \pm anguineoflexuosi superne subincrassati 3-bracteati fere semper monocephali subdense glandulosi disperse diluteque pilosi dense floccosi, capitula 3—4 (—6). Involucrum terminale ad 15—16 mm longum (c. 30 mm latum) ventricosum, lateralia 12—13 mm longa ovato-globosa, squamis latiusculis acuminatis acutiusculis v. acutis modice v. subdense subobscuraeque brevipilosis, submodice glandulosis vix floccosis, exterioribus obtusiusculis nigricantibus, interioribus pallidioribus viridi-marginatis. Flores saturate aureolutei, ligulis apice subciliatis, stylis obscuris. Achaenia obscure brunnea.

Carpathes orientales: In reg. Mughii montis Sywula sat copiose (Wołoszczak).

Subspecies **pseudeximium** G. Schneid., Österr. bot. Zeitschr. 1887 p. 277 et in „Das Riesengebirge in Wort und Bild“ Heft 41 et 42 (1891) p. 25; *H. decipiens* > *bohemicum* G. Schneid. l. c. — Caulis (15—) 25—30 (—35) cm altus flexuosus crassiusculus v. gracilis striatus, apice et basin versus modice v. subdense, medio disperse v. mediocriter pilosus vel subglaber, pilis 2—2.5 mm longis obscuris deorsum dilutis, apice setis nigris glandulisque subnumerosis immixtis praeditus, praeterea canotomentosus v. densissime floccosus, deorsum deminute floccosus glandulosusque. Folia viridia subrigida, interdum leviter glaucescentia, utrimque dense rarius modice pilosa, vel subglabra et in margine semper subglandulosociliata, pilis in parte superiore 1 mm longis, in margine et in petiolo dense piloso longioribus; radicalia florendi tempore 2—6 ovata v. late lanceolata, petiolis brevioribus v. aequilongis v. paulo longioribus, in petiolum sensim angustata, \pm longe v. breviter acuminata, raro obtusiuscula mucronata, \pm remote sinuato- v. inciso dentata, dentibus apice glandula petiolata v. sessili munitis, rarius serrato-dentata, dentibus magnis saepe in petiolum descendibus minoribus immixtis; caulina (2—) 3—4 (—6) sensim, supra medium abrupte decrescentia, oblonga v. late lanceolata, ima radicalibus similia, in petiolum alatum angustata, reliqua basi angustata subpetioliformia v. breviter alato-subpetiolata subsessilia; omnia \pm grosse dentata, superiora tantum denticulata vel integerrima, omnia acuta v. longe acuminata acutissima. Inflorescentia alte furcata v. laxe paniculata, acladium 1—5 cm longum, rami primarii 0—2 (—4) valde suprafastigiati. Involucrum (15—) 16—17 (—18) mm longum semiglobosum denique saepissime truncatum, dense pilosum subglandulosum, pilis 2 mm longis canescentibus basi atris, sparsim basi subdensius floccosum. Squamae subangustae acutae atrovirides, interiores saepe dilutiores v. dilutius marginatae. Pedunculi cani, pilis sub-

densis obscuris setis nigris immixtis et glandulis subnumerosis obsiti 2—3 bracteati. Flores saturate lutei, ligulis apice brevissime ciliatis, stylis fuliginosis. Achaenia brunneo-atra.

In montibus Asciburgensibus c. 1400 m haud frequens: Supra lacus Grosser et Kleiner Teich, in declivitatibus sub m. Kleine Koppe, in pratis ad fl. Kleine Lomnitz supra Melzergrund, in m. Ziegenrücken (G. Schneider).

Tab. 241, Fig. B. 3, 4. *H. nigratum* Uechtr. ssp. *pseudeximium* G. Schneid. (in m. Kleine Koppe leg. G. Schneider). 3. Squama. 4. Pedunculus sub involuero.

134. Hieracium corconticum K. Knaf fil., apud Čelak., Österr. bot. Zeitschr. 1883 p. 79: **prenanthoides** > (**alpinum**—**silvaticum**) Zahn, in Koch Syn. 1901 p. 1890; *H. juranum* G. Schneid., in „Das Riesengebirge in Wort und Bild“, Heft 47 et 48 (1893) p. 21. — Flor. Julio—Aug.

Subspecies **corconticum** K. Knaf. — Caulis (10—) 25—30 (—60) cm altus subtenuis v. gracilis flexuosus striatus scabriusculus, basi plerumque brunneo-rubescens v. inferne brunneo-rubro-maculatus, v. inferne subdense, superne minus pilosus v. glabratus, pilis dilutis ad 2 mm longis infra inflorescentiam tantum setis solitariis brevibus atris, glandulis nonnullis floccisque dispersis deorsum cito evanidis obsitus, phyllopodus v. hypophyllopodus. Folia dilute rarius obscure viridia ± glaucescentia, subtus pallidiora vix reticulato-venosa, denique saepe lutescentia, in margine sparissime glanduloso nervoque dorsali et in petiolo plerumque subdense pilosa, in parte superiore glabrescentia. Folia radicalia ± petiolata florendi tempore saepissime emarcida v. ad 4 virentia late ovata v. ovato-oblonga, denticulata v. dentata, dentibus apice glanduliformibus, obtusiuscula mucronata, interiora ovata v. oblongo-lanceolata breviter acuminata mucronata, in petiolum interdum sublongum alatum v. haud alatum (vulgo superne late alatum) decurrentia; caulina (3—) 4—5 (rarius ad 8) breviter acuminato-acutissima, inum late lanceolatum in petiolum sublongum late alatum basi distincte amplexicaulem sensim attenuatum, denticulatum v. basin versus ± grosse dentatum, media late lanceolata basin versus angustata sed basi ipsa dilatata subpanduriformia semi- vel magis amplexicaulia. superiora late vel ovato-lanceolata basi truncata ± amplexicaulia, in bracteas lanceolatas v. anguste lineares acutissimas ramorum transeuntia. Inflorescentia plerumque determinata, superne laxe paniculata ramis (0—) 3—4, 1—2 cephalis, rarius ex alis foliorum superiorum ramis 1-pleiocephalis praedita, (1—) 2—5 (—25) cephalis, acladium 10—30 mm longum. Involucrum 10—11 mm longum subnigrum, squamis subangustis obtusiusculis v. acutiusculis apice barbulatis, pilis canescentibus v. obscurioribus brevibus (1,5 mm) vix modice numerosis, glandulis subdensis obsitis, interioribus dilutius marginatis v. immarginatis, subeffloccosum. Pedunculi erecti v. basi arcuati subdense longeque glandulosi, pilis subsetosis ± obscuris ad 1,5 mm longis submodice numerosis v. dispersis obsiti, superne subcanoffloccosi; flocci deorsum cito, glandulae sensim deminutae usque ad caulis basin descendentes, pili deorsum mox diluti. Flores lutei, ligulis apice ciliatis, stylis obscuris; achaenia rubro- v. obscure brunnea.

Variat: α) **Freynianum** Velenovsky, Österr. bot. Zeitschr. 1883 p. 389 (*H. tenue* Freyn in sched.; *H. albinum* Freyn, in Flora 1881 no. 14; *H. bohemicum-corconticum* Uechtr., Jahresb. schles. Ges. vaterl. Kult. 1883 (1884) p. 11—13); caule elato 40—50 cm alto polycephalo; foliis caulinis 7—10; inflorescentia laxissima, ramis numerosis etiam ex alis foliorum caulinorum superiorum

ortis; acladio longiore; pedunculis arcuato-ascendentibus; foliis obscure viridibus distincte glaucescentibus, caulinis ad 10:3 cm longis profundius dentatis, dentibus maioribus margini basin versus insertis. — In montibus Asciburgensibus: Krkonoš, Melzergrube, Kiesberg (Krause, Fiek, Freyn, Velenovsky).

β) **Trautmanni** Uechtr., Jahresber. schl. Ges. 1883 (1884) p. 14; caule ad 35 cm alto (3—) 4—5 foliato oligocephalo; pedunculis magis appropinquis strictis raro subarcuatis; foliis dilute viridibus parum glaucescentibus, radicalibus petiolatis, petiolis laminam aequantibus v. longioribus, caulinis ad 6:2 cm longis denticulatis v. dentatis, dentibus maioribus medio margini insertis. — In montibus Asciburgensibus: Kesselkoppe, in declivitatibus australibus m. Krkonoš (1250—1300 m), Spindlerbaude (K. Knaf), Elbgrund (Čelakovsky).

Exsiccata: Flora Austro-Hung. no. 3378.

Tab. 242, Fig. B. 3, 4. *H. corconticum* K. Knaf. fil. ssp. *corconticum* β) *Trautmanni* Uechtr. (e m. Krkonoš, leg. E. Fiek). 3. Squama. 4. Pedunculus sub involucre.

Subspecies **asperulum** Freyn, in Flora 1881 no. 14 p. 217; *H. juranum* β) *elongatum* Čelak., Nachtr. Prodr. Fl. Bohem. — Caulis 20—40 cm altus plerumque obscurus, subglaber, basin versus tantum sparsim, raro ubique ± modice pilosus v. setis dispersis brevibus obscuris praeditus, infra inflorescentiam setis solitariis nigris floccisque sparsis obsitus, hypophyllopodus v. aphyllopodus, rarissime phyllopodus, saepe ± flexuosus. Folia dilute viridia subglaucescentia per exsiccationem plerumque lutescentia, subglandulosa; radicalia oblongo-lanceolata in petiolum angustata acuta v. subobtusiuscula, glanduloso-denticulata, florendi tempore fere semper emarcida; caulina 4—6 (—8) remota, elongato-lanceolata, media superioraque in acumen longum tenue angustata, plerumque ± remote tantum denticulata, interdum medio et ad basin glanduloso-dentata, imum in petiolum late alatum basi distincte semiamplexicaulem sensim angustatum, proxima 2—3 basi lata plus semiamplexicaulia, summa etiam basi lata sed paulo minus amplexicaulia. Inflorescentia paniculata, caulomata setis nigris floccisque solitariis obsita, acladium (5—) 10—20 mm longum, rami 3—5, inferiores saepe remoti, capitula (1—) 3—4 (—15). Involucreum 9 (—10) mm longum ovatum; squamae plerumque latiusculae, nigrae, obtusiusculae, sparsim floccosae, apice distincte barbulatae, plerumque dilutius marginatae, pariter ac pedunculi superne subfloccosi inferne floccosi pilis brevibus obscuris dispersis v. sparsis glandulisque brevibus dispersis v. modice numerosis obsitae, rarius pedunculi subepilosi basi fere glabri. Flores lutei, ligulis apice breviter ciliatis, stylis obscuris; achaenia brunneo-atra.

In m. Asciburgensibus: Kesselkoppe 1450 m (G. Schneider), in declivitatibus australibus m. Krkonoš 1320—1345 m (Freyn).

Exsiccata: Fl. Austro-Hung. 3377.

Tab. 242, Fig. A. 1, 2. *H. corconticum* K. Knaf ssp. *asperulum* Freyn (in m. Kesselkoppe, leg. A. Scholz). 1. Squama. 2. Pedunculus sub involucre.

135. Hieracium chlorocephalum (Wimm., Jahresb. schles. Ges. 1845 sine descript.) Uechtr., Österr. bot. Zeitschr. 1872 p. 311; = **prenanthoides—alpinum—vulgatum** Zahn, in Koch Syn. 1901 p. 1891. — Iulio—Aug.

Subspecies **stygium** Uechtr., 53. Jahresb. schles. Ges. 1875 (1876) p. 146; Fiek, Fl. Schles. 1881 p. 271; *H. plumbeum* b) *clatius* Fr., Epier. 1862 p. 95. — Phyllopodum v. interdum hypophyllopodum, rarius aphyllpodum et caulis supra basin rosulis foliosis praeditus. Rhizoma saepe pluricaule. Caulis (10—) 15—35 (—45) cm altus subgracilis v. tenuis ± flexuosus erectus striatus, basi pariter ac foliorum petioli brunneo-rubescens. Folia obscure viridia saepe subglaucescentia, subtus subpallidiora, rigida; radicalia 2—6, extima ± spatulata subparva distincte glandulosa, sed in rosulis novellis tantum evoluta, reliqua (exteriora) late v. ovato-lanceolata obtusiuscula v. acutiuscula, florendi tempore saepe emarcida, 1—3 (interiora) tantum virentia vulgatifornia lanceolata, sensim in petiolum longum attenuata, utrimque dentibus compluribus apice glanduliformibus denticulata, rarius integerrima v. subintegerrima, sublonge acuminata acuta; caulina (2—) 3—4 (—5) sensim decrescentia, imum v. inferiora 2 radicalibus similia ± longe petiolata, reliqua basi ± angustata sessilia v. subamplexicaulia. Inflorescentia altefurcata vel laxe paniculata ± suprafastigiata indeterminataque; capitula (1—) 2—4 [rarius compluria; in planta culta v. rarissime in spontanea vegeta, rami ad 5 (—6), ordines axium 3, capitula 10 (—14)]; acladium (5—) 10—25 (—45) mm longum, rami 1—2 (—4), inferior v. inferiores remoti oblique erecti v. subarcuati 1—2 (—3) cephal. Involucrum (10—) 11—13 (—14,5) mm longum semiglobosum denique ± ventricosum basi truncatum; squamae latiusculae obtusiusculae v. (interiores) ± acutiusculae, valde nigrae, interiores pallidiores et dilute submarginatae. Bractee 1—3. Pili in involucrio pedunculisque sparsi v. modice numerosi subatri subsetosi, in caulomatibus deorsum consimiles diluti, caulis basin versus densi molles 2—3 mm longi, superne breves, in foliis utrimque + modice numerosi v. subnulli breves subsetosi, in margine nervoque dorsali et in petiolo subdensi, 1 (—2) mm longi. Glandulae in involucrio pedunculisque dispersae v. subnumerosae, in caule usque ad basin descendentes et + dispersae, in foliorum margine dispersae vel sparsae. *Flocci* involucri plerumque sparsi, pedunculi can, caulis ± dense v. deorsum saepe usque ad basin disperse floccosus, folia in nervo dorsali tantum interdum disperse floccosa. Flores dilute aurei, ligulae angustae saepissime complicatae, apice + obsolete ciliatae, stylus obscurus; achenia atrobrunnea.

Variat: 1) normale Z., involucrio pedunculisque sparsim mediocriterve pilosis;

a) *verum*, caulomatibus folisque subpilosis. — Sudeti, Carpathes.

b) *calvescens*, caulibus folisque ± calvescentibus. — Sudeti.

2) pilosius Z., involucrio pedunculisque subdense pilosis minus glandulosis. — Carpathes orientales: Czorna Hora.

Exsiccata: Fl. Austro-Hung. 3375 (e m. Ameisenberg); Callier, Fl. Siles. exs. 1893 no. 361 (e m. Altvater 1300 m); F. Schultz, Herb. norm. nov. ser. cent. XIX no. 1817 (e m. Köpernikstein 1424 m); Zahn, Hieraciotheca Europaea no. 486 (Brünnelheide).

Habitat in Sudetis orientalibus 700—1490 m: Altvater, Ameisenhügel pr. Wiesen-berg, Leiterberg, Petersteine, Hohe Heide, Brünnelheide, Köpernik pr. Goldenstein, Hock-schar, Grosser Kessel (Oborny), Glatzer Schneeberg (Tausch), Zabelkreuz pr. Waldenburg 1000 m, Königskoppe (Freyn), ad m. Schottersteine in valle fl. Weisse Oppa versus Karls-brunn et in valle Mitteloppatal versus Buchberg usque ad 700 m (Oborny). — Com. Arva: Babia gora supra Polhora, inter Mughos (Wofoszczak). — Tatra: Nosal pr. Zakopane, ad lac. Javorinaer Schwarzsee, in valle Furkota, Drechslerhäuschen, Stirnberg (Sagorski), Kleines Kohlbachtal (Winkler), Rosahütte, Treppchen (Sagorski), Kohlbachfälle (Czako), in valle

Eissee supra lacum Poppersee 1650 m (de Degen, inter lac. Steinbachsee et Lomnitzer Grat (Wołoszczak), Lomnitzer Spitze (Borbás), in v. Felkatal, Zöld tó pr. Késmárk (Czako), in valle Poduplaski et Mengsdorfertal (Pax), in m. Kriwán (Wołosz.). — Carpathes orient.: In m. Ilrowyzeze vel Wysoka 1760 m ad fl. Lomnica, in m. Sywania, Guretwyn, Popad, Grofa, Mołoda, Mszernie, Mszanie (Wołoszczak; cfr. Materyjały do flory Gór Lomnickich, in Sprawozdán Komisji fizyogr. Akad. Umiejętności n. Krakowie, tom. XXVII 1892 p. 144 (et 209)); in cacumine m. Muncel pr. Rareu Bukovinae, 1590 m, in m. Jajko Hemske in ditone fl. Swica, in montibus Neriedowa inter fl. Swica et Lomnica; ad Forasek et Pop Jwan in montib. Czorna Hora (Wołoszczak).

Verosimiliter formulae *vulgatum*—*Fritzei* respondens; *H. nigrito* simile, sed foliis *H. vulgatum* in mentem mox revocans.

Tab. 243, Fig. A. 1. *H. chlorocephalum* (Wimm.) Uechtr. ssp. *stygium* Uechtr. (e m. Altvater, leg. Ficinus). 1. Squama.

Subspecies **Engleri** Uechtr., Österr. bot. Zeitschr. (1871) p. 293, (1873) p. 259; Fiek, Fl. Schles. 1881 p. 271: *H. albinum* Uechtr., Verhandl. bot. Ver. Brandenburg 1868 p. 160; non Fries: *H. Dorrense* Engler, Jahresber. schles. Ges. vaterl. Kult. 1869 p. 36; *H. rupestre* γ) *molle* Wimm., Fl. Schles. ed. 2 (1844) Nachtr.: *H. chlorocephalum* ssp. *Engleri* Zahn, in Koch Syn. 1901 p. 1891. — Caulis (12—) 20—25 (—30) cm altus gracilis v. subtenuis erectus saepe flexuosus et basin versus pariter ac pars aversa foliorum radicalium ± rubescens, phyllopodus v. hypophyllopodus, superne modice vel disperse, inferne subdensius pilosus, pilis dilutis 1—2 mm longis, eglandulosus, apice modice v. sparsim floccosus, basin versus effloccosus. Folia laete viridia vix glaucescentia, subtus pallidiora, mediocriter (1 mm), marginem sparsim glandulosum versus et in nervo dorsali densius pilosa (1,5 mm), in petiolis subvillosa (2—3 mm), pilis dilutis mollibus, in foliorum margine rigidiusculis; radicalia florendi tempore 2 (—4) virentia, raro omnia emarcida, exteriora ovata v. elliptica vel oblonga ± spatulata, in petiolum breviora alata v. longiora anguste alata subabrupte vel subsensim angustata apice rotundata v. obtusa v. acutiuscula, florendi tempore fere semper emarcida, reliqua late lanceolata v. lanceolata petiolata utrimque sensim angustata ± acuta, omnia obsolete et plerumque remotissime denticulata; caulina 2—3 (—4) sensim decrescentia, inum radicalibus simile v. lanceolatum et basin versus longe sensim angustatum subpetiolatum, sequens ± late lanceolatum brevius vel paulum angustatum basi semianplexicaule, superiora similia v. lanceolata, omnia obsolete remoteque glanduloso-denticulata, acuta, summum subintegerrimum, omnia plerumque subabrupte in acumen tenue producta. Inflorescentia laxa paniculata vel altefurcata (1—) 2—4 (—7) cephalis; acaulium (10—) 30—35 mm longum; rami primarii (0—) 1—2 (—4) erecti; pedunculi subcrassiusculi obliqui subpilosi (1,5—2 mm), superne canotomentosi deorsum dense floccosi, sed sparsim tantum glandulosi v. subglandulosi. Involucrum (10—) 11—12 (—14,5) mm longum ovatum, denique globoso-ovatum basi subtruncatum, modice v. subdense pilosum, pilis subobscuris basi atris subsetosis 1,5 mm longis, sparsim glandulosum floccosumque, basi paulo densius floccosum. Squamae pluriseries subangustae longe acuminatae, itaque flores ante anthesin longe superantes, acutiusculae v. acutae, exteriores atrovirides vel atrae angustiores dilutius marginatae, interiores sordide virides latius marginatae. Bractae lineares 1—4 evolutae. Flores aureo-lutei, ligulis apice glabris v. sparsissime ciliatis, stylis obscuris. Achaenia atrobrunnea.

In montibus Asciburgensibus (Riesengebirge): Kleine Schnee-grube, solo basaltico,

in declivitatibus sub m. Kleine Koppe (Pax, Scholz : in Sudetis orientabilibus: Grosser Kessel in m. Gesenke in rupestribus praeruptis herbis marginis superioris, 1350 m (Grabowski 1841, Engler 1867); vix in m. Kom Cernagorae.

Tab. 245. Fig. A. 1, 2. *H. chlorocephalum* (Wimm.) Uechtr. ssp. *Engleri* Uechtr. ex fauce Grosser Kessel, leg. Oborny). 1. Squama. 2. Pedunculus sub involuero.

Subspecies **chlorocephalum** (Wimm. in sched. et Jahresb. schl. Ges. 1845 p. 60, sine descript.) Uechtr. l. c.; Fiek, Fl. Schles. 1881 p. 270; *H. pallidifolium* J. Knaf pat. 1863. Österr. bot. Zeitschr. 1872 p. 77, nec Jord. in Boreau, Fl. centr. Fr. ed. 3 II (1857) p. 407; *H. pallescens* β) *foliatum* Wimm., Fl. Schles. ed. 3; *H. Knafianum* Arv.-Touv., Essai de classif. (1880) p. 7; *H. bohemicum-vulgatum* Uechtr., Österr. bot. Zeitschr. 1872 p. 311; *H. chlorocephalum* ssp. *chlorocephalum* Zahn, in Koch Syn. (1901) p. 1892; *H. carpathicum* Uechtr., Jahresb. schl. Ges. 1866 p. 122 non Bess. — Phyllopodum v. hypophyllopodum, interdum aphyllopodum (per gemmas clausas perhiemans). Caulis (15—) 22—28 (—40) cm altus rigidus erectus, crassiusculus solidus scabriusculus, inferne saepe \pm rubro-maculatus, \pm angulato-striatus, plerumque breviter subpilosus, pilis dilutis 0,5—1 mm longis, interdum longioribus v. etiam subnullis, superne sparsim modiceve floccosus et raro glandulis solitariis obsitus. Folia rigidiuscula pallide viridia, subtus canescenti-viridia, praecipue in margine eglanduloso nervoque dorsali modice v. subdense pilosa, pilis subrigidiusculis 0,5—1 mm longis, in petiolis densis mollioribus; radicalia florendi tempore (1—) 2—4 virentia ovata v. elliptica v. oblongo-lanceolata, in petiolum sensim v. subcito angustata, (interdum longissime) petiolata, plerumque sinuata-v. inciso-serrato-dentata, dentibus saepe submagnis, apice glanduliformibus, exteriora obtusa, reliqua acutiuscula v. acuta; caulina (2—) 3—4 (—6) sensim decrescens, inferiora radicalibus similia vel in petiolum late alatum basi subamplexicaulem angustata, media superioraque ovato-lanceolata (saepe abrupte) acuminata, basi abrupte angustata sessilia et paulum amplexicaulia, praecipue infra medium \pm argute serrato-dentata, dentibus apice glanduliformibus. Inflorescentia indeterminata, superne paniculata, ramis 1—3 (—5), inferioribus remotis ex foliorum superiorum alis v. profundius ortis, monocephalis v. simpliciter ramulosis; accladium 3—10 (—20) mm longum; capitula (1—) 2—5 (—13); pedunculi breviter subpilosi, modice v. disperse floccosi, disperse v. sparsim glandulosi, interdum subglabri. Involucrum (10—) 11—12 (—13) mm longum semiglobosum basi (saepe iam ante anthesin) truncatum, denique basi lata truncata, disperse breviter pilosum glandulosumque, basi tantum \pm sparsim floccosum. Squamae subregulariter imbricatae sublatiusculae acuminatae obtusiusculae vel acutiusculae, atrovirides, interiores dilutiores albido- v. viridi-marginatae, extimae tantum immarginatae. Flores saturate aureo-lutei, ligulis apice subglabris, rarius sparsim ciliatis, stylis obscuris. Achaenia atrobrunnea.

Variat: 1) normale Z. — In Sudetis occidentalibus (Riesengebirge): Grosse und kleine Schnee-grube (Zimmermann, Trautmann) 1250—1300, Teufels-gärtchen (Wichura), Kleiner Teich (Trautmann), Grosser Teich (Fiek), Melzergrube, Kesselkoppe (Fiek), Riesengrund (Domin), Elbgrund (Fiek), Schneekoppe (Domin), Krkonoš (Freyn), prope Rotes Bergwirthshaus (Baenitz), Schlingelbaude (Ascherson), Kiesberg (Krause); in Sudetis orientalibus (Gesenke): Grosser Kessel (Fiek, Ficinus), Fuhrmannsteine (Oborny), Schneeloch 1300 m (Freyn).

2) minus Uechtr., Österr. bot. Zeitschr. 1872 p. 311, caule tenui basi magis

villosa, 1 (—2) cephalo, plerumque 2—foliato; foliis minus profunde dentatis, radicalibus persistentibus; capitulis subminoribus. Ab *H. nigrito* caule ± maculato superne subglabro solido et foliis rigidioribus diversum. — In declivitatibus ad lacum Kleiner Teich, Kessel et Kesselkoppe (Fritze).

Exsiccata: Flora Austro-Hung. 3342.

Tab. 243, Fig. B. 2, 3. *H. chlorocephalum* (Wimm.) Uechtr. ssp. *chlorocephalum* 1) normale Z. (in fauce Grosser Kessel leg. A. Oborny). 2. Squama. 3. Pedunculus sub involucrio.

Subspecies **adustum** de Benz et Zahn, Österr. bot. Zeitschr. 1904 no. 7, Sep. p. 10 sine descript. — Caulis 20 ad 35 cm altus subpilosus, superne sparsim floccosus, inferne rubescens v. rubro-maculatus. Folia rosularia pauca ± oblongo-lanceolata utrimque attenuata acuminata acuta late alato-petiolata, petiolis basi rufescentibus late vaginantibus, subintegerrima v. ± denticulata, lutescenti-viridia, utrimque modice breviterque mollipila, mollia; caulina ad 5 remota sensim decrescentia oblongo-lanceolata acuta, basin versus angustata sessilia vix amplexicaulia, interdum leviter panduriformia, superiora lanceolata apice saepe obliqua, omnia utrimque subpilosa et in margine disperse minuteque glandulosa, effloccosa vel summa tantum in nervo dorsali sparsiflocca. Inflorescentia laxa paniculata, rami primarii 2—3 subremoti 1—3-cephali, ordines axium 3, capitula 4—8, plerumque 3 tantum evoluta, acladium 20—25 mm longum. Involucrum 10—12 mm longum ventricosum-globosum denique depressum, disperse vel modice breviterque pilosum (0,5—1 mm), disperse glandulosum floccosumque. Squamae pluriseries atrae parum (subviridi-) marginatae, sublatiusculae obtusiusculae, interiores acutiores. Pedunculi canescentes, modice breviterque pilosi subglandulosi. Flores subaureo-lutei, ligulis apice ciliatis, stylis subatris. Achaenia subatra.

Stiria: Ad lacum Turracher See 1900 m, Stranerhöhe ad Stadl pr. Murau 1800 m (detexit B. Fest; de Benz).

Exsiccata: Zahn, Hieraciotheca Europaea no. 83 et 192.

Tab. 244. *H. chlorocephalum* (Wimm.) Uechtr. ssp. *adustum* de Benz et Zahn (Stranerhöhe, leg. Fest). 1. Apex ligularum. 2. Squama. 3. Pedunculus sub involucrio. 4. Nervus dorsalis folii caulini superioris.

136. Hieracium Purkynei Čelak., Result. bot. Durchforsch. Böhm. 1884 p. 8; = **Wimmeri** -**atratum**. Caulis c. 30 cm altus gracilis parum flexuosus obsolete striatus, basi rufescens et molliter albopilosus (1,5—2 mm), supra folium caulinum inum usque ad apicem epilosus, superne glandulosus sparsimque floccosus, phyllopodus. Folia dilute viridia (per exsiccationem lutescenti-viridia), in parte superiore modice, in margine sparsim glanduloso densius, in parte aversa albido-viridia et praecipue in nervo dorsali dense pilosa, pilis albis 1 mm longis, in nervo dorsali sublongioribus, petioli pilis albis densis ad 2 mm longis obsiti. Folia radicalia florendi tempore numerosa (ad 7 virentia) elliptica, oblonga v. lanceolata, exteriora in petiolum late alatum sensim angustata, interiora in petiolum fere haud alatum longe angustata, fere usque ad apicem glanduloso-denticulata, obtusiuscula v. acuta apice saepe subobliqua; caulina plerumque 2 oblique patentia acuta, inum oblongo-lanceolatum, basin versus angustatum subpetiolatum, basi ipsa semiamplexicaule, denticulatum, summum lanceolatum basi supetiolatum sessile, parum denticulatum, interdum bracteiforme. Inflorescentia paniculata 5—12 cephalo, acladium 10—25 mm longum, rami primarii 2—4, inferiores remoti, ordines axium 3, pedunculi tenues subarcuato-ascendentes, dense glandulosi, inferne modice, superne dense

floccosi, pilis modice numerosis c. 2 mm longis canescentibus basi atris obsiti. Involucrum 10 mm longum ovatum, pilis modice numerosis canescentibus basi atris c. 2 mm longis, praeterea pilis subdensis 0.5—1 mm longis tenuibus albidis usque ad apices squamarum obsitum, subglandulosum, disperse basi modice floccosum. Squamae angustae subobtusiusculae obscure atro-virides v. subatrae, angustissime dilutiusque marginatae. Flores aureoltei, ligulis apice brevissime ciliatis, stylis obscuris. Achaenia subatra.

In montibus Asciburgensibus (Riesengebirge): in m. Kahlenberg ad occidentem m. Kesselkoppe (Purkyně) et in declivitatibus australibus m. Kesselkoppe (Scholz). — Flor. Aug. — Planta rarissima.

Tab. 245, Fig. B. 3, 4. *H. Purkyni* Čelak. (in m. Kesselkoppe leg. Scholz). 3. Squama. 4. Pedunculus sub involucrio.

137. Hieracium weiffeldense Murr 1896; Deutsch. bot. Monatsschr. 1897 p. 281; Zahn, in Koch Syn. 1901 p. 1893; = **epimedium—Bocconeii** Murr l. c. — Phyllopodum. Caulis 30—40 cm altus tenuis v. subgracilis saepe flexuosus, striatus; interdum 1—2 caules laterales evoluti sunt. Folia radicalia 2—5, in petiolum ± late alatum et ± longum subsensim angustata, exteriora obovata apice rotundata, sed florendi tempore saepe emarcida, reliqua elliptico-vel oblongo-lanceolata, obtusiuscula v. ± acuminata et acutiuscula v. acuta, mucronata, leviter remoteque sinuato-dentata, dentibus apice glanduliformibus, saturate viridia subglaucescentia, subtus albido-viridia, submollia, haud reticulato-venosa; caulina 3—4 sensim decrescentia, imum radicalibus simile vel basi paulum attenuata semiamplexicauli sessile, media basi lata v. rotundata semiamplexicaulia rarissime subpanduriformia, praecipue basin versus dentata, summum lanceolatum v. lineari-lanceolatum. Inflorescentia ± determinata v. indeterminata, laxe paniculata v. altefurcata; acladio 10—50 mm longo, ramis primariis 1—3 ± remotis ± arcuato-ascendentibus monocephalis v. simpliciter ramulosis, capitula 2—6 (—10). Involucrum 12—13 mm longum, globoso-ovatum denique basi truncatum. Squamae e basi latiuscula acuminatae obtusiusculae v. acutiusculae, intimae acutae, subatrovirides dilute marginatae. Bractee 1—2. Pili ubique subnumerosi ad 3 mm longi, in foliis supra subtusque breves, in parte superiore subsetosi. Glandulae in involucris pedunculisque ± densae sublongae atrae, in caule deminutae sed usque ad basin solitariae, in foliorum margine sparsissimae. Flocci involucri dispersi v. basin versus subnumerosiores, in squamarum marginibus subdensi; pedunculi cani, caulis usque infra medium deminute floccosus; folia caulina superiora in nervo dorsali disperse floccosa. Flores lutei, ligulis apice ciliatis, stylis obscuris; achaenia brunneoatra.

Tirolia: In pratis alpinis Weiffeld pr. Luttach, 2000—2200 m (Treffer). — Flor. Iulio—Aug.

Tab. 246. *H. weiffeldense* Murr (e loco class., leg. Treffer). 1. Apex ligularum. 2. Squama. 3. Pedunculus sub involucrio.

138. Hieracium sterzingense Zahn, in Koch Syn. 1901 p. 1893 — **integrifolium—Bocconeii** Zahn l. c. — Caulis ad 40 cm altus subcrassiusculus ubique subdense pilosus (2—3 mm), usque ad basin glandulis solitariis obsitus, usque infra medium disperse floccosus, phyllopodus v. hypophyllopodus. Folia radicalia 2—3 elliptica v. oblongo-lanceolata, subcito vel sensim in petiolum sublongum subalatum angustata, exteriora obovata apice rotundata florendi tempore plerumque emarcida, reliqua breviter v. longius acuminata acutiuscula v. acuta, argute serrato-dentata, dentibus apice glanduliformibus; caulina c. 4—5 remota, in-

feriora basi angustata subsessilia, superiora basi subangustata v. parum angustata sessilia subamplexicaulia, omnia utrimque + hirsuta, in margine nervoque dorsali et in petiolo vel basin versus) dense pilosa (1—3 mm), gramineo-viridia, subtus subconcoloria haud reticulato-venosa, in margine sparsim glandulosa. Inflorescentia laxè paniculata 3—8 cephalis, acladio 3—5 cm longo, ramis 2—3, inferioribus remotis monocephalis v. simpliciter ramulosis saepe + foliosis; pedunculi ± canotomentosi, plerumque subpilosi, sat dense glandulosi, glandulis elongatis. Involucrum ovatum ad 14 mm longum denique truncatum; squamae subangustae acuminatae acutiusculae subatrae dilute marginatae sat dense longeque glandulosae, vulgo subpilosae, in margine tantum sparsim floccosae. Flores lutei, ligulis apice leviter ciliatis, stylis obscuris; achaenia subatra.

Supra viculum Schluppes in vallicula Jaufental pr. Sterzing Tiroliae australis c. 1600 m (Huter). — Flor. Augusto.

Tab. 247. *H. sterzingense* Zahn (e loco class., leg. Murr). 1. Squama. 2. Pedunculus sub involuero.

139. Hieracium viscosum Arv.-Touv., Suppl. à Monogr. 1876 p. 26; Spicilleg. 1881 p. 34: Hierac. alp. franç. (1888) p. 107; Burnat et Gremli, Hierac. alp. marit. (1883) p. 21; *H. lactucifolium* forma *hypophyllopoda* Arv.-T., Soc. dauph. no. 1726 exs.; = **prenanthoides** < **amplexicaule** Zahn, in Koch Syn. 1901 p. 1896; Hierac. d. Schweiz 1906 p. 496; *H. prenanthoides-amplexicaule* A.-T. l. c.

Phyllopodum, rarius hypophyllopodum. Caulis 30—60 cm altus gracilis v. crassiusculus, saepe usque ad basin ramosus. Folia rosularia florendi tempore emarcida vel ad 6 virentia + magna, foliis *H. amplexicauli* similia, obovato-spathulata v. late oblongo-lanceolata, supra medium latissima, longe in basin subpetioliformem attenuata, acutiuscula mucronata, denticulata vel irregulariter dentata, multidentata; caulina 7—10 sensim decrescentia, inferiora 4—5 cm lata ad 16 cm longa, ima longe attenuata basi dilatata amplexicaulia, sequentia ± ovato-oblonga et basi ± cordata, vel ± panduriformia et basi ± aurita amplexicaulia, omnia cito acuminata acutiuscula v. acuta, distincte v. vix reticulato-venosa. Inflorescentia ± ut in *H. amplexicauli*, indeterminata squarrosa, ramis (3—) 4—8 gracilibus oblique patentibus longis foliosis 1—3 (—4)-pliciter ramulosis; capitula 10—30 v. compluria; acladium 10—35 (—50) mm longum. Involucrum 12—13 mm longum crasse ovatum v. semiglobosum, squamis latiusculis acutiusculis v. acutis apice barbulatis, obscuris dilute marginatis disperse floccosis, exterioribus saepe laxis. Tota planta ± lutescenti-viridis, ubique (et praecipue superne) dense glandulosa epilosaque, rarius inferne in caulibus marginibusque foliorum ± breviter pilosa. Pedunculi dense floccosi, 2—3 bracteis subfoliaceis obsiti. Flores lutei, ligulis apice ciliatis, stylis luteis v. obscuris. Achaenia rubrobrunnea v. castanea. Margines alveolorum piloso-ciliati. — Flor. Iul.—Aug.

Subspecies **viscosum** A.-T. l. c. — Planta usque ad basin longe ramosa. — 1) *normale* Z. — Tota planta tantum glandulosa. — Vallesia: St.-Maurice (Zahn) et versus Massongex (Briquet); Pas de l'Ours supra Lens 1800 m (Besse). — In Alpibus Gallicis et Maritimis. 2) *subpilosum* Z., caulibus basin versus et foliis inferioribus (in margine) disperse pilosis. — In Alpibus Gallicis et Italicis.

Habitat praecipue in Delphinatu: Mte Viso, Villard-de-Lans, Grenoble → Die → Gap; Provence; Basses-Alpes; Alpes Maritimae; Pedemontium. Pyrenaei orient.

Exsiccata: Soc. dauph. no. 1726; Hieracioth. Gallica no. 112; Reverchon et Derbez, Pl. de France no. 21 [Fugeret (Basses-Alpes)]; Zahn, Hieracioth. Europ. 193.

Tab. 248. *H. viscosum* A.-T. ssp. *viscosum* 2) *subpilosum* Zahn (Monétier-les-Bains 2200 m, leg. A. Faure). 1. Apex ligularum. 2. Squama. 3. Margo foliorum.

140. Hieracium ramosissimum Schleich., apud Hegetschw., Beitr. krit. Aufz. Schweizerpfl. 1831 p. 360; Fl. d. Schw. 1840 p. 785; Burn. et Gremli, Catal. Hier. Alp. marit. 1883 p. 20; Zahn, in Koch Syn. 1901 p. 1895; Hier. d. Schw. 1906 p. 494; *H. picroides* β) *ramosissimum* Froel. in DC., Prodr. VII 1838 p. 210 (excl. syn. Gaud.); *H. ochroleucum* Griseb., Comm. 1852 p. 26 p. p. et *H. ochroleucum* β) *piliferum* Griseb. l. c. ?; *H. mycelioides* Griseb. l. c. ?; *H. Crissolense* Boiss. et Reut. apud Fries, Epicr. 1862 p. 120; *H. prenanthoides* * *perfoliatum* Fries l. c., non Froel.; *H. lactucaefolium* Arv.-T., Monogr. 1873 p. 44; = **prenanthoides—amplexicaule** Arv.-T. l. c.

Caulis 40—80 cm altus gracilis v. crassiusculus intense (saepe anguloso-) striatus, infra medium subpilosus vel epilosus, basin versus tamen fere semper subpilosus, ubique dense glandulosus, aphyllopodus v. hypophyllopodus. Folia caulina 8—12 vel compluria, sensim in bracteas decrescentia, ima \pm longa magnaue, late lanceolata, basin versus angustata v. \pm panduriformia, amplexicaulia, media ovato- v. elliptico-lanceolata, sub- vel haud panduriformia valde amplexicaulia, superiora basi cordata \pm amplexicaulia, omnia \pm breviter acuta mucronata, \pm denticulata, sublutescenti- v. saturate viridia \pm glaucescentia, subtus pallidiora, vix v. obsolete reticulato-venosa, mollia, epilosa v. in margine nervoque dorsali disperse modiceve pilosa, 0,5—1 (—2,5) mm, modice v. dense glandulosa. Inflorescentia paniculata \pm squarrosa, indeterminata vel instar *H. bupleurifolii* \pm determinata, v. caulis ex omni ala ramosus, ramis longis oblique patentibus foliosis. Acladium 15—30 mm longum, rami 8 v. numerosi graciles v. tenues dense glandulosi 1—2 (—3)-pliciter ramulosi, capitula (8—) 20 vel copiosa. Involucrum 10—12 mm longum cylindrico-ovatum basi rotundatum v. denique truncatum, squamis angustis obtusiusculis v. acutiusculis et acutis, obscure vel saepe \pm viridi-canescens, dilutius marginatis apice barbulatis, pariter ac pedunculi densissime luteolo-glandulosis et dense floccosis. Bracteae 1—3 saepe subfoliolaceae. Flores lutei, ligulis apice \pm glanduloso-ciliatis, stylo obscuro; achaenia dilute rubro-brunnea; receptaculum plerumque intense ciliatum. — Flor. Aug.—Sept.

In ditone *H. amplexicaulis* in Pyrenaeis, Delphinatu, Pedemontio et Vallesia.

1. Folia tantum glandulosa, vel ima caulina basin versus tantum pilis sparsis adpersa.

Subspecies **conringiifolium** Arv.-Touv., Spicileg. 1881 p. 34; Hierac. Alp. franç. 1888 p. 106. — Folia caulina media vix panduriformia, fere omnia conformia, basi \pm auriculata late cordata sessilia, denticulata vel subintegerrima, subtus obsolete reticulato-venosa. Inflorescentia \pm indeterminata longeque ramosa. Alveoli in margine \pm distincte fibrilloso-dentati et interdum subglandulosi.

Vallesia: In silva Burgerwald supra Unterbaech pr. Raron 1350 m (Bruegger), pr. Visp (Wolf); Pedemontium: Gollié in valle Cogne (id.); Delphinatus: Villard-de-Lans, Guillette, Corrençon en Lans (A.-Touv.), Briançon (Bachmeyer), la Madeleine in iugo Lautaret, infra les Bérardes in valle fl. Vénéon (W. Bernoulli); in Alpibus Maritimis Italiae: pr. Peira Cava versus Luceran (Burnat), in v. Pesio (Bicknell), S. Grato pr. Limone infra iugum Col die Tenda 1550 m (Jacquet).

Exsiccata: Soc. franco-helv. 306; Soc. dauphin. 353; Zahn, Hieraciotheca Europ. 84. 295 (pr. Lillaz in v. Cogne 1400 m leg. Wilczek).

Tab. 249. *H. ramosissimum* Schl. ssp. *conringiifolium* A.-T. (e monte Aurouze pr. Gap, Hautes-Alpes, leg. Brachet). 1. Squama. 2. Pedunculus sub involucri.

Huc pertinet etiam ssp. *lactucifolium* A.-T., Monogr. 1873 p. 44; Addit. à Monogr. p. 17; Spicileg. p. 33; Hier. Alp. fr. p. 105; foliis in parte aversa distincte reticulato-venosis, caulinis mediis distincte panduriformibus, inferioribus in petiolum alatum basi latiore auriculatum angustatis; inflorescentia subdeterminata; alveolis in margine tenuiter fibrilloso-dentatis; habitu *H. bupleurifoliodis*. — Delphinatus, Pedemontium.

1* Folia in margine (glandulosa et) breviter pilosa.

Subspecies *ramosissimum* Schleich. l. c.; *H. lactucaefolium* 2. *H. Helveticum* A.-T., Spicileg. 1881 p. 33; non Suter, Fl. Helv. ed. 1 (1802); *H. lactucaefolium* var. *runcinatum* A.-T., Essai classif. p. 12 et Hier. Alp. franç. p. 105; *H. ramosissimum* a) *Schleicheri* Burnat et Gremli, Hier. Alp. marit. p. 20; *H. runcifolium* A.-T., in Wilczek, Notes Hier., Bull. Soc. Murith, fasc. XXXI p. 108; *H. adenoclinium* Besse, in Bull. Soc. Murith. XXXII 1903 p. 186. — Folia caulina media haud panduriformia, omnia conformia, basi lata v. auriculata amplexicaulia, subtus vix reticulato-venosa, in margine praecipue basin versus leviter sinuato- et glanduloso-denticulata. Inflorescentia indeterminata et longe squarroso-paniculata. — Verosimiliter formulae *prenanthoides*—*pulmonarioides* respondens.

Vallesia: Conthey 1900 m, Pas de l'Ours de Lens, Liddes, Isérables (Besse), Vercorin (Favrat), Painsec (Wolf), Pontis (Bernoulli), Tourtemagne, Unterbaech (Wolf), Visp, Stalden, Zeneggen, Staldenried (Schleicher, Wolf), Visperterminen (Bruegger), Kalpetran et in valle St. Nikolaus (Christener), Toerbel (Spencer), Ganter (Favrat), Algabi (Jaccard), inter Naters et Belalp (Wolf); Pedemontium: Flora Valdostana: inter Étroubles et Gignod (Favrat), Pré-St.-Didier → La Thuille (Vaccari), Vieyes, Lillaz, Crêt, Chavanis, Gollié, Valsaravanche, Val Grauson (Mueller-Aargov., Wolf, Besse). — Delphinatus, Alpes Maritimae.

Exsiccata: Soc. dauph. 853^{bis}; Soc. franco-helv. 767.

Tab. 250. *H. ramosissimum* Schl. ssp. *ramosissimum* Schl. (prope Grengiols Vallesiae leg. Jacquet). 1. Squama. 2. Pedunculus sub involucri. 3. Margo foliorum.

Adnotatio: *H. Arpadianum* Zahn, in Reichb. Icones XIX 2 p. 132, tab. 110, ut nunc cognovimus, est species intermedia inter *H. amplexicaule* et *H. integrifolium* Lange, ergo formulae (*prenanthoides* > *silvaticum*)—*amplexicaule* respondens.

141. *Hieracium stenoplectum* Arvet-Touv. et Huter, in Bull. Soc. bot. France XLI (1894) p. 363; *H. prenanthoides* > *albidum* Zahn, in Koch Syn. 1901 p. 1896; *H. cydoniaefolium* × *prenanthoides* Huter in sched. 1881; *H. juranum* × *pseudopieris* A.-T. apud Huter in sched.; = *prenanthoides* > *intybaceum* Zahn, Hierac. d. Schweiz 1906 p. 497.

Caulis ad 75 cm altus gracilis v. crassus, aphyllopodus. Folia caulina 10—15 submagna elongata late lanceolata approximata sensim decrescentia, media basin versus ± attenuata ± panduriformia, superiora e basi cordato-ovata acuminata, inferiora basin versus longe attenuata basi subpetiolata sessilia, omnia semiamplexicauli acuminata tenuiter glanduloso-denticulata, saturate subtus glaucescenti-viridia et reticulato-venosa, glabrescentia v. supra subrigidiuscule, subtus molliter breviterque subpilosa, in margine nervoque dorsali semper breviter pilosa. Inflorescentia paniculato-corymbosa, $\frac{1}{4}$ — $\frac{1}{3}$ totius caulis exhibens, poly-

cephala; accladium 10—20 mm longum, rami \pm remoti, oblique et \pm squarros-patentes, apicem versus 2— (vel 3—) pliciter ramulosi, densissime longeque glandulosi modiceque floccosi. Involucrum crasse cylindrico-ovatum denique truncatum, 10—12 mm longum, squamis subangustis v. sublatiusculis obtusis v. obtusiusculis apice barbulatis, obscure canis v. subatris albido-viridi-marginatis, modice v. subdense floccosis et longissime densissimeque glandulosis. Glandulae brunneo-luteae in caulem profunde descendentes, in foliis solitariae. Flores saturate lutei, ligulis apice ciliatis; achaenia dilute brunnea; stylus obscurus. — Flor. Aug.

Habitu *H. prenanthoidis* luxuriantis. Inter hoc et *H. picroides* Vill. (ochroleucum Schl.) intermedium.

In consortio parentium in Vallesia: Les Combes du St.-Bernard 2200 m (Besse), Creux de Dzéman (Wolf); Helvetia orientalis: Arosa (Chenevard), in valle Sertig pr. Davos (Zahn), pr. Samnaun (Kaeser); Tirolia: Jaufen (Huter).

Tab. 251. *H. stenoplectum* Arv.-T. et Hut. (in v. Jaufental supra Schluppis leg. J. Murr et Hellweger). 1. Squama. 2. Pedunculus sub involucri.

142. Hieracium picroides Vill., Voyage 1812 p. 22, tab. 1 fig. 3; Gaudin, Fl. Helv. V p. 115; Monnier, Essai p. 34; Grenier, in Godr. Gren., Fl. Fr. II p. 378; Froel., DC., Prodr. VII p. 210; etiam Rapin, Reuter, E. Thomas, Jordan, Muret in sched.; Fries, Symb. p. 157 p. p.; Zahn, in Hierac. d. Schw. 1906 p. 497; *H. ochroleucum* Schleich., Cat. ed. 4 (1821) p. 19 sine descript.; Koch, Syn. ed. 2 II p. 528; Reichb., Comp. tab. 144; Griseb., Comm. p. 26 p. p.; A.-T., Hier. Alp. franç. p. 109; Zahn, in Koch Syn. p. 1896; *H. cotoneifolium* Froel., in DC., Prodr. VII p. 210; an Lamarck?; *H. Sieberi* Tausch! in Flora 1828, Erg.-Bl. p. 75; *H. cydoniaefolium* Fr., Epicr. p. 118; Christener, Hier. d. Schw. p. 21; *H. prenanthoides* \times *intybaceum* Bruegg. 1854 in sched.; *H. albidum* \times *prenanthoides* Bruegg. in Muench. gelehrt. Anzeig. 1854 p. 213; Schultz-Bip. 1855, apud F. Schultz, Archives II p. 119. = **prenanthoides—intybaceum** Zahn, Hier. d. Schw. p. 497. — Confer etiam: Zahn l. c. p. 498 et in Koch Syn. 1901 p. 1896.

1. Planta ubique dense glandulosa epilosa, interdum caulis basin versus tantum pilis sparsis obsita (Grex *Ochroleucum* Zahn, in Koch Syn. p. 1897).

Subspecies **ochroleucum** Schl. l. c.

Variat: $\alphagenuinum Zahn, in Schinz et Keller, Fl. d. Schw. ed. 2 II (1905) p. 337; epilosum v. in caulis basi tantum sparsim pilosum.$

1) fuscum A.-T. l. c.; *H. picroides* $\alphaglandulosum Monnier l. c., involucris subatris sparsim floccosis.$

a) **normale** Zahn, Hier. d. Schw. p. 499. — Vallesia: St. Bernhard: Les Combes (Favrat), Creux de Dzéman, Haut d'Alesse (E. Thomas), Pierre du Chasseur, Arbignon, Gorges d'Alesse (Muret), Fully (Thomas); Delphinatus: Lautaret (W. Bernoulli), Combe-Noire (Faure et Chaboissau); Isère: Plagne versus Allevard (Neyra); Pelvoux, Haute-Maurienne, Mt. Cénis, Col de Larche, Col de Vars etc. (Arv.-Touv.); Pedemontium: Ad lacum Combal, Comba Veleille, inter Praraya et glaciem Za-de-Zan in valle Valpelline (Vaccari), in valle Cogne (Wolf); Alpes Maritimae: Costa rossa supra Val Pesio (Bicknell).

Exsiccata: F. Schultz, Herb. norm. 2364; Soc. franco-hélv. 754; Magnier, Fl. sel. 93; Soc. dauph. 175^{bis}.

b) *tubulosum* Zahn l. c., floribus tubulosis et \pm stylosis. — Pacoteires (Besse).

2) *cinereum* A.-T. l. c., squamis dense floccosis vel in margine canotomentosis. — Delphinatus: Lautaret (A.-T.), Monétier-les-Bains (A. Faure). — Soc. dauph. 635; Zahn, Hieracioth. Europ. no. 85.

β) *subepilosum* Zahn, in Koch Syn. p. 1897; foliis in margine sparsissime pilosis. — Ad pedem australem m. Gr. St. Bernhard: La Baux (Wolf); ad lacum Combal (Vaccari); Lautaret (A.-T.). — Zahn, Hieraciotheca Europaea no. 385.

1* Planta ubique \pm glandulosa, sed simul in caulibus foliisque pilis simplicibus \pm obsita (Grex *Pseudopicris* Zahn l. c.).

2. Involucrum fere semper epilosum.

Subspecies **Sieberi** Tausch l. c.; Zahn, Hier. d. Schw. p. 499; *H. ochroleucum* c) *hirsutum* A.-T., Hier. Alp. fr. p. 110 p. p.; *H. mycelioides* Griseb., Comm. p. 26?; Arv.-T. l. c.; Zahn, in Koch Syn. p. 1897. — Folia gramineo- vel saturate (per exsiccationem plerumque lutescenti-) viridia oblongo- vel late lanceolata, basin versus fere aequilata v. leviter panduriformia, inaequaliter denticulata dentataque. Inflorescentia plerumque laxissime paniculata, acladio (1—) 3—5 cm longo, ramis \pm remotis subgracilibus, capitulis (2—) 5—15 (—25). Involucrum et pedunculi \pm sparsim floccosi atriusculi, densissime longeque glandulosi. Pili usque infra caulis medium basi atri, ubique breves. Achaenia dilute brunnea.

Variat: α) *genuinum* Zahn, Hier. d. Schw. p. 499; capitulis plerumque paucis crassis, squamis latis atris obtusis obscure viridi-marginatis. — Verosimiliter formulae *lanceolatum* (*strictissimum*) — *intybaccum* respondens. — Tirolia: Luttach (Treffer), in pratis montanis supra Oberdrumm pr. Lienz (Gander); Carinthia: Gartenalpe pr. Reichenau (Sieber!).

β) *atrofusum* Zahn l. c.; *H. ochroleucum* var. *hirsutum* A.-T. in sched.; var. γ) *fuscum* Zahn, in Schinz et Kell. l. c. p. 338; capitulis 10—20 vel compluribus; squamis angustioribus; foliis caulinis numerosioribus (ad 18). — Sabaudia: Brézon (Jack); Helvetia: St. Bernhard (Favrat), Arbignon, Alesse (Muret, Schleicher), Maienwand, in valle Eginen (Muret, Wolf), Realp, Gotthard, Andermatt, in iugo Oberalp (Heer, Schröter, Käser), Piz Aul, in alpe Sezner supra Lumbrein (Steiger), Zervreila, Valserberg (Bruegger, Muret), Splügen (Zahn), Engadina superior (Favrat), Sertig (Zahn), Samnaun (Kaeser); Vorarlbergia: in iugo Zeinis (Zahn), Arlberg (Murr); Algovia: Höfats (Gugler), inter Baerguendele et Luitpoldhaus 1700 m (Hegelmaier); Tirolia: Luttach (Treffer), Kals, Muehlwald, Müllitz in Virgen (Ausserdorfer), pr. Gurgl (Zahn).

Exsiccata: Doerfler, Herb. norm. 3116 p. p.; Fl. Austro-Hung. 3383; Zahn, Hieracioth. Europ. 194; 296.

Subspecies **picrioides** Vill. l. c.; *H. picrioides* β) *pilosum* Monn. l. c.; *H. pseudopicris* A.-T., Spicileg. suppl. I 1886 p. 44; Hier. Alp. franç. p. 110; *H. ochroleucum* β) *piliferum* Griseb., Comm. p. 27?; Gremli, Exk.-Fl. d. Schw.; non Hoppe. — Folia caulina subintegerrima

vel \pm dentata, oblongo- v. anguste lanceolata, pariter ac caulis densius pilosa et minus glandulosa quam in *H. Sieberi*. Pedunculi dense floccosi vel canotomentosi; involucria modice vel densissime floccosa, squamis sublatiusculis v. subangustis, obtusiusculis vel acutis. Inflorescentia paniculata, oligo- vel pleiocephala, acladio plerumque brevior. — Involucris pedunculisque densius floccosis *H. prenanthoidi* magis affine quam subspecies *Sieberi*.

Variat: α) **pseudopicris** A.-T. l. c., foliis irregulariter denticulatis simul dentatis.

1) normale Zahn, Hier. d. Schw. p. 500; caule gracili v. crassiusculo, involucris 11—12 mm longis obscuris, sed squamis ubique subdense floccosis.

a) *verum* Zahn l. c., foliis oblongo-lanceolatis, inferioribus parum longioribus. — In Alpibus Lemanensibus: Col de Léchaud (Briquet); Vallesia: Simplon, Binn, Eginen, Maienwand; Helvetia orientalis: Realp, Engadina, Sertig, Davos, inter m. Scesaplana et Seewies, Hinter-rhein, Zervreila etc.; Helvetia australis: Val Piora, Bosco, in alpe Robiei, Cima di Cagnone, V. Pertusio etc.; Tirolia: in iugo Jaufen (Hellweger), in valle Virgen (Ausserdorfer), Thurneralpe pr. Lienz (Gander), in iugo Stilsfer Joch ad m. Ortler (Freyn), Weitfeld et Wolfeskofel pr. Luttach (Treffer), Kals (Huter); Algovia: Kegelköpfe, Soeller, Rappenalpe (Kranz), in iugo Titzl pr. Reutte (Grembligh); Stiria: Turracherhöhe (de Benz); Delphinatus: Lautaret (W. Bernoulli), Monétier-les Bains, in valle Guil (A.-T.); Sabaudia: La Com-baz-Deraud pr. Hauteluce (Perrier); Delphinatus: Les Plagnes d'Allevard (Neyra).

b) *angustifolium* Z. l. c., foliis lanceolatis, inferioribus valde elongatis, basi longe angustata petioliformi sessilibus, superioribus brevioribus sed latioribus. — In iugo Zeinis, in valle Sertig (Zahn); Forno-gletscher Engadinae (Hegi).

2) *lutescens* Huter, Exsicc.; Zahn, in Koch Syn. p. 1897, caule gracili v. subtenui, 20—40 cm alto; involucris 11—13 mm longis obscure cano-viridibus, squamis \pm dense floccosis saepe densissime luteolo-glandulosis.

a) *verum* Zahn l. c., foliis denticulatis. — Maienwand, Simplon (Favre, Wolf); Tirolia: Luttach (Treffer), in v. Lesachertal pr. Kals (Huter).

b) *subserratum* Zahn l. c., foliis distincte serrato-dentatis. — Schalbet in iugo Simplon (Favrat).

c) *floccifolium* Zahn l. c., foliis subtus densius pilosis, summis in parte aversa subfloccosis. — Simplon: La Coupure (Favre).

3) *trichocephalum* Zahn, in Koch Syn. 1898, involucris \pm dense floccosis, dense glandulosis, pilis solitariis brevibus obsitis. — Helvetia: Maienwand (Favrat), Simplon: Schalbet (Favre), in valle Fex Engadinae (Favrat), in alpe Sardasca pr. Klosters (Bruegger), inter Parpan et Stätzer Alpe (Touton); Algovia: Söller (Caflisch, sub nom. *H. strictum* Sendtner); Tirolia: Jaufen (Hellweger).

β) **subintegerrimum** Zahn, Hier. d. Schw. p. 501; *H. mycelioides* α) *geminum*

a) *normale* Zahn, in Schinz et Kell., Fl. d. Schw. ed. II (1905) p. 338; foliis

caulinis oblongo- v. elliptico-lanceolatis, basi cordata saepe subauriculata \pm amplexicaulibus, inferioribus eximie panduriformibus, omnibus integerrimis v. tantum denticulatis. — St. Bernhard (Wolf), Simplon (Favre), in iugo Valserberg pr. Hinterrhein et in alpinis Stutzalpen pr. Splügen (Zahn).

Tab. 252. *H. picrioides* Vill. ssp. *picrioides* Vill. $\alphapseudopicris 1) *normale* α) *verum* Zahn (in iugo Valserberg legi). 1. Apex ligularum. 2. Squama. 3. Pedunculus sub involucri. 4. Foliorum margo.$

143. Hieracium pallidiflorum Jord. (1840) et in F. Schultz, Archiv. 1855 p. 119; Reichb., Comp. tab. 149; Zahn, in Koch Syn. 1901 p. 1898; Hier. d. Schw. 1906 p. 502; *H. picroides* Fr., Symb. p. 157 A p. p.; Epier. p. 118 p. p.; Christener, Hier. d. Schw. p. 21; Arv.-T., Hier. Alp. franç. p. 110; nec Vill., Gaud., Grenier etc. l. c.; *H. Huteri* Hausm., Verh. zool.-bot. Ges. Wien VIII p. 375; *H. cydoniaefolium* \times *intybaceum* Muret in sched.; *H. prenanthoides* \times *albidum* F. Schultz, Archiv. 1855 p. 63; Schultz-Bip. l. c. p. 119; Bruegger in sched.; *H. ochroleucum*—*intybaceum* Favrat in sched.; *H. Ganderi* Hut. olim in sched.; nec Hausm.; = *prenanthoides* < *intybaceum* Zahn, Hier. d. Schw. l. c.

In consortio *H. intybacei* et *H. picrioidis*, habitu prioris. Flor. Aug.—Sept.

Subspecies **lantoscanum** Burn. et Gremli, Hier. Alp. marit. 1883 p. 22. Tota planta glandulosa, epilosa vel in caulis basi margineque foliorum inferiorum caulinarum basin versus tantum pilis solitariis obsita. Folia angustata, *H. intybacei* similia.

Variat: 1) *Seringeanum* Zahn, Mitt. Bad. bot. Ver. 1899 p. 152 et in Koch Syn. 1901 p. 1899; *H. picrioides* α) *fuscum* A.-T., Hier. Alp. fr. p. 110 p. p.

Folia anguste lanceolata elongata. Squamae modice v. sparsim tantum floccosae. — Vallesia: Maienwand (Favrat); Rhaetia: inter Campsut et Croet vallis „Avers“ 1800 m (Leresche, Bruegger, Kaeser); Sabaudia: Combaz-Deraud pr. Hauteluze, les Allues, la Claise (Perrier).

2) *subalbidum* Zahn, in Schinz et Kell., Fl. d. Schw. ed. 2 II (1905) p. 339; *H. picroides* α) *fuscum* A.-T., Hier. Alp. franç. p. 110 p. p. Folia late lanceolata, involucri \pm effloccosa. *H. intybaceo* proximum. — Rhaetia: In valle Pontirone ad Biborge 1300 m (Steiger).

3) *lantoscanum* Zahn l. c.; *H. picroides* β) *cinereum* A.-T. l. c. p. 111. Interdum ad 4—5 dm altum; foliis lanceolatis elongatis; squamis subalbido-tomentosis; pedunculis canis; caule fere usque ad basin floccoso. — Helvetia: Maienwand (Muret), Maloja: Belvedere (Brugger) et versus iugum Lunghino 1900 m (de Tavel); in pago Ticinensi: in declivitate occidentali m. Camoghé 17—1800 m, Bocche della Tappa (Jaeggli); in Alpibus maritimis: Rifugio di Curo del Barbellino (Gugler), Costa Rossa supra Val Pesio 2400 m et pr. Lantosque (Burnat); Delphinatus: Gravières au-dessous des sources de l'Arc dans la Haute-Maurienne, prope Allos et Colmars, Basses-Alpes (Arvet-Touv.).

Tab. 253, Fig. B. 3. *H. pallidiflorum* Jord. ssp. *lantoscanum* Burn. et Gremli 1) *Seringeanum* Zahn (in declivitatibus „Maienwand“ ad glaciem Rhodani legi). 3. Margo foliorum.

Subspecies **Huteri** Hausm.; Huter, Exsicc. (1872); Reichb., Comp. tab. 149; Zahn, in Koch Syn. 1901 p. 1899; *H. picroides* F. Schultz et Winter, Herb. norm. cent. I no. 95;

H. picrioides c. *hirsutum* A.-T., Hier. Alp. franç. p. 111. Hieracio *picrioidi* Vill. magis affine. Folia \pm lanceolata, breviora et latiora quam in *H. lantosciano*, basi saepe \pm semiamplexicaulia, pariter ac caulis praeter glandulas pilis simplicibus obsita. Planta ad 40 cm alta.

Variat: 1) fuscum Zahn, in Koch Syn. l. c., involucris subatris pariter ac pedunculi effloccosis. — Helvetia: Maienwand (Muret), inter Tiefengletsch et Bielen supra Realp 2160 m (Correns), Goeschener Alpe (Gisler); in alpe Robiei pr. Campo in pago Ticinensi (Chenevard); Tirolia: Muehlwald (Ausserdorfer), Goege pr. Weissenbach vallis Ahrn (Treffer), Kals: Viecherhorn (Molendo), in valle Lesach 2000 m, infra Kals—Matreier Toerl (Huter), in alpe Muellitz in v. Virgental (Ausserdorfer), Thurneralpe pr. Lienz (Gander), supra Heiligkreuz in v. Venter Tal 1950 m (Zahn).

2) subcinereum Zahn l. c., floccis in involucrio vel praecipue in pedunculis \pm densis. — Kapfloch infra iugum Simplon (Fayre), Maienwand (Favrat).

Exsiccata: Fl. Austro-Hung. 3382 (Muellitz); Zahn, Hieracioth. Europ. 386 (var. *fuscum* Z. — Heiligkreuz); 386a (var. *subcinereum* Z. — Simplon).

Tab. 253, Fig. A. 1, 2. *H. pallidiflorum* Jord. ssp. *Huteri* Hausm. 1) *fuscum* Zahn (in m. Wolfeskofel pr. Luttach Tiroliae leg. Treffer). 1. Pedunculus sub involucrio. 2. Margo foliorum.

Subspecies **subpicrioides** Zahn, Hier. d. Schw. 1906 p. 503. Inter ssp. *Huteri* et ssp. *picrioides* intermedium, foliis cauleque densissime glandulosis subpilosisque, foliis latius lanceolatis quam in ssp. *Huteri*, involucris 13—14 mm tantum longis; capitulis 2 vel paucis. — Goeschener Alpe et in alpe Forno vallis Maggia (Favrat).

144. Hieracium kalsianum Huter, Exsicc. (1867); Naeg. Pet., Hier. Mitteleurop. II (1886—1889) p. 228; *H. ochroleucum—villosum* Zahn, in Koch Syn. 1901 p. 1899; *H. villosum—(prenanthoides—albidum)* N. P. l. c.; = **picrioides—villosum** Zahn, Hier. d. Schw. (1906) p. 503. Aphyllopodum. Caulis 30—45 cm altus. Tota planta disperse glandulosa et modice sat denseve pilosa. Folia caulina 5—12 submagna, omnia amplexicaulia, oblonga v. (superiora) oblongo-ovata, acuta, \pm dentata, lutescenti-viridia. Inflorescentia laxa paniculata, acladio 5—30 mm longo, ramis 1—3 subremotis gracilibus, capitulis 2—4 (—8) crasse cylindrico-ovatis denique truncatis, 13—15 mm longis. Squamae \pm latae lanceolatae acutae, apice barbulatae, atrae, \pm viridi-marginatae, modice pilosae (2—3,5 mm), dense glandulosae, modice v. in margine saepe dense floccosae. Pedunculi subdense sublongeque glandulosi. Pili in plantae partibus superioribus basi atri. Flores lutei, ligulis apice breviter ciliatis, stylis obscuris, achaeniis dilute brunneis ad 5 mm longis. — Flor. Augusto.

Habitu *H. valdepilosi* ssp. *elongati*, at differt indumento in tota planta partim glanduloso.

Subspecies **kalsianum** Huter, pilis ad 4 mm longis, glandulis in pedunculis subnumerosis, foliis superioribus in parte aversa effloccosis, achaeniis ad 5 mm longis.

Helvetia: In alpe Zotto ad Campo in pago Ticinensi (Chenevard); Tirolia: in valle Lesach infra Kals in alnetis infra m. Weisskopf haud procul a „Christinens Riese“ c. 2000 m (Huter, Zahn 1909).

Exsiccata: Fl. Austro-Hung. no. 3331.

Tab. 254. *H. kalsianum* Huter ssp. *kalsianum* (Huter) N. P. (loco classico leg. Huter).
1. Apex ligularum. 2. Squama. 3. Pedunculus sub involucri. 4. Margo foliorum.

Subspecies **ochroleucopsis** Zahn, Hier. d. Schw. p. 503; *H. kalsianum* ssp. *adenophorum* N. P. II p. 229 p. p.; nec Scheele, in Linnaea XXXII p. 682. Pilis in caule ad 8 mm longis, glandulis in pedunculis foliisque sparsissimis parvisque, foliis superioribus subtus saepe subfloccosis, achaeniis ad 3,8 mm longis, squamis longe acutis.

Helvetia: In alpe Botenalp m. Faulhorn pr. Grindelwald (Mueller).

145. Hieracium macrocephalum Huter (1856) in sched.; Zahn, in Koch Syn. (1901) p. 1899 = **pallidiflorum—kalsianum** vel **pallidiflorum** > **valdepilosum** Zahn l. c. — Habitu ut in *H. pallidiflori* ssp. *Huteri*. Caulis 15—30 (—40) cm altus subtenuis v. gracilis, erectus v. ascendens et subflexuosus, pariter ac folia et margo foliorum pilis rigidis albidis basi atris ad 3 mm longis dense hirsutus, aphyllopodus. Folia caulina 10—15 appropinquata, sensim in bracteas foliolaceas decrescentia, lanceolata v. ovato-lanceolata, sensim acuminata acuta, inferiora basi cuneata ± subamplexicaulia, media basi lata v. pariter ac superiora basi rotundata sessilia et ± semiamplexicaulia, omnia glanduloso-denticulata vel ± serrato-denticulata, ± rigida, viridia v. sublutescens-viridia, subtus subpallidiora distincte venosa vix reticulato-venosa. Inflorescentia laxa paniculata usque ad caulis medium descendens, (1—) 2—4 (—6)-cephala, acladio 5—30 (—50) mm longo, ramis (0—) 1—4 subarcuato-ascendentibus subgracilibus monocephalis v. simpliciter ramulosis¹⁾. Involucrium 15—16 mm longum ventricosum-globosum denique depressum, squamis numerosis e basi latiuscula sensim acuminatis obtusiusculis v. interioribus acutiusculis, atroviridibus dilutius marginatis. Bracteae 1—3. Pili in involucrio nulli v. solitarii, in pedunculis dispersi v. modice numerosi. Glandulae in involucriis pedunculisque densissimae (more *H. pallidiflori*), in caule usque ad basin descendentes, in foliis subnumerosi v. dispersi. Flocci in involucrio sparsissimi, pedunculi dense floccosi, caulis usque ad medium deminute subfloccosus. Flores saturate lutei, ligulis apice parum ciliatis, stylis obscuris, achaeniis dilute brunneis. — Flor. Aug.

Tirolia: In valle Lesach pr. Kals, loco „Tschamp“ dicto in alnetis ad pedem m. Weisskopf haud procul ab „Christinens Riese“ (Huter, Zahn 1909) 2000 m rarissime; Schleinitz pr. Lienz (Gander).

Exsiccata: Flora Austr.-Hung. exs. no. 3386 (planta culta).

Tab. 255. *H. macrocephalum* Huter (planta culta, a cl. Huter distributa). 1. Squama. 2. Pedunculus sub involucri. 3. Margo foliorum.

146. Hieracium fastuosum Zahn, in Koch Syn. (1901) p. 1900; *H. heterotrichum* Ausserdorfer in litt. ad A. Kerner 1868 et herb., nec al.; *H. cydoniaefolium* × *Bocconeii* Ausserd. l. c.; *H. Bocconeii* × *albidum* Ausserd. 1869 in litt. ad Hausmann; *H. ochroleucum—valdepilosum* Zahn l. c. = **picrioides—valdepilosum** Zahn, Hier. d. Schw. 1906 p. 504. — Caulis 20—50 cm altus gracilis v. crassus, flexuosus, ± sulcato-striatus, aphyllopodus v. hypophyllopodus. Folia inferiora florendi tempore emarcida; caulina 5—10 sensim decrescentia, inferiora oblongo-lanceolata basi angustata saepe subpetiolata, media ovato-lanceolata basi lata sessilia, superiora basi rotundata v. subcordato-ovata sessilia, omnia sub- vel semi-

¹⁾ Planta culta a. cl. Huter distributa ramis ad 8 capitulisque ad 15 praedita est.

amplexicaulia acuminata acuta, glanduloso- et serrato-dentata. Inflorescentia laxè paniculata (1—2—5 (—12) cephalis, acladio 8—20 mm longo, ramis (0—) 1—3 (—5) oblique erectis crassiusculis monocephalis v. simpliciter ramulosis. Involucrum magnum ad 18 mm longum crasse ventricosum denique depressum, squamis e basi lata acuminatis obtusis v. intimis acutis, atro-viridibus dilutius viridi-marginatis. Bracteae 1—2 ± foliolaceae. Pili in involucris pedunculisque pariter ac in caule margineque foliorum densi 3—5 mm longi, in foliis utrimque modice numerosi. Glandulae in involucrio modice numerosae, in pedunculis cauleque usque ad basin ± dispersae, in foliis solitariae. Flocci in involucrio praesertim in squamarum marginibus ± dispersi, pedunculi canescentes, caulis usque infra medium disperse floccosus. Flores dilute lutei, ligulis apice parum ciliatis, stylis obscuris, achaeniis obscure brunneis. — Flor. Aug.

Tirolia: In alpe Kaserstatt vallis Muehlwald (Ausserdorfer).

Tab. 256. *H. fastuosum* Zahn (e loco classico!). 1. Apex ligularum. 2. Squama. 3. Portio e caulis medio. 4. Margo foliorum.

Subspecies **trichopicris** Zahn, in Schinz et Kell., Fl. d. Schw. ed. 2 II (1905) p. 339; Hier. d. Schw. 1906 p. 504. Habitu *H. picrioidis* ssp. *picrioidis*, sed involucris pedunculisque pariter ac reliquae plantae partes modice vel subdense pilosis (1—1,5 mm). Caulis subtenuis, ad 30 cm altus, usque ad basin disperse glandulosus. Folia caulina 8—12 oblongo-lanceolata, superiora latiora brevioraque, inferiora basi angustata v. subpanduriformia, media basi lata, superiora basi subcordata sessilia et ± amplexicaulia, omnia dilute viridia denticulata, modice pilosa disperseque glandulosa. Acladium ad 6 cm longum, rami pauci tenues, capitula 2—6. Involucrum 10—12 mm longum, squamis e basi latiuscula acuminatis acutis subatris modice floccosis pariter ac pedunculi ± dense glandulosi. Flores lutei, ligulis apice breviter ciliatis, stylis obscuris, achaeniis brunnescentibus. — Fl. Augusto.

Helvetia: In declivitatibus septentrionalibus vallis lateralis Langental in v. Eginental pr. Ulrichen 21—2200 mm legi.

147. *Hieracium pseudostenoplectum* Zahn — **picrioides—iuranum** Zahn. Koch Syn 1901 p. 1900; *H. iuranum—ochroleucum* Zahn l. c. Flor. Aug.

Subspecies **pseudostenoplectum** Zahn l. c. et Hier. d. Schweiz 1905 p. 505. Hypophyllopodum, rarissime phyllopodum. Caulis 40—50 cm altus gracilis, inferne subpilosus. Folia caulina c. 8—10 submagna sensim decrescentia ± remota (praecipue superiora), ima, ± cito vel sensim in petiolum longum angustata elliptico- vel oblongo-lanceolata, sequentia basi angustata sessilia subamplexicaulia, media summaque basi lata vel subcordiformia amplexicaulia, omnia glanduloso-denticulata v. grosse dentata subglaucescentia dilute vel lutescenti-viridia mollia, supra disperse pilosa vel glabrescentia, subtus et praecipue in margine nervoque dorsali submodice pilosa. Inflorescentia paniculata, acladium ad 30 mm longum, rami primarii ad 7 subtenuis vel subgraciles appropinquati vel remoti, ordines axium 2—3 capitula pauca vel ± numerosa. Involucrum cylindrico-ovatum 10 mm longum, squamis angustis obscuris ± dilute marginatis obtusis vel obtusiusculis disperse floccosis, sed densissime sublongeque glandulosis, pedunculi caulomataque consimilia. Folia glandulis nonnullis (praecipue in nervo dorsali et in margine) obsita. Flores lutei, ligulae apice ciliatae, stylus atriuseculus, achaenia brunneo-atra.

Habitu *H. iurani*, sed inflorescentia laxè paniculata; involucria, pedunculi et caulomata

(superne) densissime et subgrosse glandulosa, folia semper glandulis nonnullis praedita. Interdum 1—2 folia radicalia evoluta sunt.

Habitat in consortio *H. picrioidis* in *Helvetia*: Grd St.-Bernhard: Les Combes (A. et C. Touton), Pradaz (Besse); Creux de Dzéman (Favrat), Simplon (id.), Maienwand (Zahn), in vallibus Dischma et Sertig et in alpe Drusatscha pr. Davos (de Tavel, Zahn), in m. Eckberg pr. St. Antönien (Brügger). In m. Camoghé 1750 m (Jäggli). In m. Petit St.-Bernard floriae Valdostanae (Vaccari). — Tirolia: In vallecula Jaufental supra viculum Schluppes (Huter).

Variat: 1) maioriceps Zahn, Hier. d. Schw. l. c., involucro 10—11 mm longo subdense floccoso; planta robusta. — In valle Sertig (Zahn).

2) minoriceps Zahn l. c., involucro minore, ad 10 mm longo atriusculo.

a) *verum* Z. l. c. — Omnibus locis superne citatis.

b) *ramosum* Z. l. c., caule ex omni ala longe ramoso. — In v. Sertig.

Tab. 257. *H. pseudostenoplectum* Zahn (in valle Sertig legi). 1. Squama. 2. Pedunculus sub involucro. 3. Margo foliorum glanduloso-dentata.

Sectio XV. **Tridentata** [Fries, Epicr. p. 115; Arv.-Touv., Hier. Alp. franç. p. 118; Zahn, in Koch Syn. p. 1901; Stirps *H. vulgati* Fr. Symb. p. 103 p. p. et stirps *H. tridentati* Fr. l. c. p. 168; *Pseudopulmonarea* et *Umbellata* p. p., Fries Epicr., p. 113 et 132]. — Aphyllopodium, haud raro phyllopodium vel hypophyllopodium; inflorescentia paniculata, interdum superne umbellata; squamae adpressae, saepe \pm irregulariter imbricatae, plerumque sparsim pilosae, glandulosae floccosaeque, interiores angustatae obtusae vel acutiusculae; achaenia matura obscura; receptaculum dentatum; folia caulina plerumque haud ita numerosa, aequaliter distantia, ima \pm subpetiolata, media basi angustata sessilia, nunquam amplexicaulia plana, omnia vulgo subangusta. Floret Julio et initio Aug.

Huc pertinent *H. laevigatum* Willd., *H. rigidum* Hartm., *H. tridentatum* Fr., *H. gothicum* Fr. p. p., *H. lapponicum* et aliae „species“ scriptorum classicorum. Ex mea sententia hae „species“ omnes inter *H. umbellatum* et *H. vulgatum* intermediae et uni speciei: ***H. laevigato*** adscribendae sunt. *H. laevigatum* ergo formulae **umbellatum—vulgatum** respondere pro certo habeo.

148. Hieracium laevigatum Willd., Hort. Berol. I (1816) tab. 16; Sp. pl. 3 p. 1590; herb. no. 14 722 apud Sch.-Bip.; Froel., in DC. Prodr. VII p. 220; Koch, Syn. ed. 1 p. 461; Arv.-T., Monogr. p. 46; Zahn, in Koch Syn. (1901) p. 1901; Hier. d. Schw. p. 506. — Huc pertinent: *H. tridentatum* Fr., Nov. (1819) p. 187 (sub *H. vulgato*); Summa veget. p. 6; Symb. p. 171; Epicr. p. 116; Grenier, in Gr. Godr., Fl. Fr. II p. 383; *H. gothicum* Fr., Symb. p. 121; Epicr. p. 114; *H. ambiguum* Schult., Obs. bot. p. 165; Schleicher sub *H. sabauda* Gaud., Fl. Helv. V p. 110; nec Lapeyr.; *H. affine* Tsch., in Flora (1828), Erg.-Bl. I p. 70; Froel. l. c. p. 221; *H. rigidum* Hartm., Fl. Scand. ed. 1 p. 300; Fr., Symb. p. 173; Epicr. p. 133; Griseb., Comm. p. 46; Koch, Syn. ed. 2 p. 530; Reichb., Comp. tab. 170; Arv.-Touv., Hier. Alp. franç. p. 118; *H. lapponicum* Fr., Symb. p. 170; *H. Garckeianum* Aschers., Jnd. sem. hort. Berol. (1809) p. 24; in Flora (1870) p. 180.

Cl. Friesius primo (Nov. Mant. II p. 48, Herb. normale III₄, V₁, IX₃, XII₁₃) *H. tridentatum* et *H. rigidum* duas species diversas esse declaravit. In Epicrissi (p. 116) *H. rigidum* Herb. norm. IX 3 ad *H. tridentatum*, sed ibidem p. 133 ad *H. rigidum* Hartm. citavit

et transtulit. Etiam Hartmann, Fl. Scand. ed. 5 (1849) p. 24, *H. rigidum* ab *H. tridentato* haud separavit.

Per totam Europam usque ad zonam arcticam et per Sibiriam ad Mandchuriam, etiam in terris Caucasiacis et in America boreali.

Disposito gregum etc. vide Zahn, Hierac. d. Schweiz (1905) p. 507.

Subspecies **amaurolepis** Murr et Zahn, in Zahn Hieracioth. Europ. sched. ad cent. I p. 26 (1906); *H. gothicum* auct., nec Fr. [cfr. Dahlst., Bidr. sydöst. Sverig. Hierac.-Fl. III (1894) p. 174]. Caulis 30—50 cm altus gracilis strictus rigidus striatus, inferne violaceus et breviter subpilosus, superne viridis epilosus eglandulosus interdum sparsim floccosus, hypophyllopodus v. plerumque aphylllopodus. Folia caulina 5—9 sensim decrescentia rigidiuscula saturate viridia late lanceolata irregulariter breviterque sinuato-dentata vel saepissime breviter dentata vel denticulata pluridentata (haud grosse dentata, non dentibus 3—4 multo maioribus praedita), supra glabra sublucida vel inferiora marginem versus sparsim pilosa, subtus sparsim breviterque pilosa et floccis saepe indistinctis praedita vel in margine nervoque dorsali subfloccosa simul subciliata, inferiora basi subangustata, media basi fere rotundata sessilia, superiora consimilia, subtus subfloccosa. Inflorescentia paniculata, accladium 5—25 mm longum, rami primarii (1—) 2—3 (—5) subremoti 1-cephali vel simpliciter ramosi, capitula (2—) 3—8 (—15). Involucrum ovatum crassiusculum denique depressum 10—11,5 mm longum, squamae latiusculae lanceolatae obtusiusculae vel acutiusculae satis imbricatae atrovirides v. subatrae fere effloccosae disperse breviterque glandulosae epilosae vel rarissime pilis valde solitariis praeditae. Pedunculi sat tenues apice paulum incrassati dense floccosi epilosi fere semper eglandulosi, bracteis 3—4 squamiformibus obsiti. Ligulae saturate luteae apice glabrae, stylus denique fuscus, achaenia atro-brunnea.

Variat: a) *verum* Z. — In montibus Hercynicis, in Vogesis, Sudetis, Carpathis, in m. Feldberg Badenae. — Exsicc.: Zahn, Hieracioth. Europ. cent. I no. 88 (e m. Feldberg).

b) *subnigrum* M. et Z., squamis latioribus fere atris, foliis glabrioribus. — Tirolia: Supra viculum Schluppess c. 1500 m in v. Jaufental pr. Sterzing (Huter), pr. Trins in valle Gschnitz (A. Kerner), pr. Luttach (Treffer) etc. — Exsicc.: Zahn, Hieracioth. Europ. no. 89; Doerfler, Herb. norm. 4395 (e valle Jaufen, leg. J. Murr).

Tab. 259. *H. laevigatum* Willd. ssp. *amaurolepis* M. et Z. b) *subnigrum* M. Z. (e valle Jaufental, leg. J. Murr). 1. Squama. 2. Pedunculus sub involucrio.

Subspecies **megalothyrsus** M. et Z., apud Murr, Deut. bot. Monatschr. 1902 p. 74; Zahn, Hieracioth. Europ. no. 86. Caulis gracilis v. crassus ad 120 cm altus viridis sulcato-striatus disperse breviterque pilosus superne subfloccosus, basi + violaceus, aphylllopodus. Folia caulina ad 40 valde sensim decrescentia, inferiora lanceolata ad 12 cm longa, 2,5 cm lata utrimque attenuata + acuta, ima subpetiolata florendi tempore plerumque emarcida, sequentia basi longe angustata sessilia, reliqua sensim angustiora basi brevius attenuata vel (superiora) anguste lanceolata basi paulum attenuata vel fere aequilata subrotundata sessilia acutiora, omnia rigidiuscula vel subcoriacea saturate viridia, supra glabra subnitentia, in margine saepe paulum revoluta irregulariter subgrossequae serrato-dentata, dentibus 2—4 maioribus varie longis parvis intermixtis munita et pilis brevibus modice ciliata, subtus pallidiora distincte venosa disperse brevissimeque pilosa sparsim floccosa, in nervo dorsali

obscuriore disperse vel modice pilosa, superiora brevius dentata et utrimque subfloccosa. Inflorescentia paniculata, saepe valde ramosa usque ad $\frac{1}{2}$ totius caulis descendens, ramis numerosis elongatis saepe curvatis oblique patentibus foliis parvis obsitis apice ramulosis composita, acladium 20—30 mm longum, ordines axium 3—4, capitula 30 vel compluria. Involucrum 10 mm longum ovatum, squamis latiusculis obtusiusculis vel interioribus acutiusculis subirregulariter imbricatis viridi-atris breviter subglandulosis epilosis effloccosis, exterioribus multo minoribus angustioribus subaxis basi subfloccosis. Pedunculi subtenues apice parum incrassati 2—3 bracteati subdenseque floccosi, deorsum cito valde deminute floccosi, disperse brevissimeque glandulosi subepilosi. Flores lutei, stylus denique obscurus.

Tirolia sept.: Secundum rivum Mellach inter Kematen et Rotenbrunn in valle Sellrain prope Innsbruck (de Sarnthein, Murr, Poell).

Exsiccata: Zahn, Hieracioth. Europ. no. 86 (e loco class., leg. Poell); Doerfl., Herb. norm. 4361.

Tab. 258. *H. laevigatum* Willd. ssp. *megalthyrsum* M. et Z. (leg. J. Murr).

Subspecies **deltophylloides** Zahn, in Koch Syn. 1901 p. 1927 (pro *leiopsi—vulgato*). Caulis ad 60 cm altus, inferne subpilosus, superne subfloccosus, gracilis, basi violaceus. aphyllopodus; rhizoma saepe pluricaule. Folia caulina 10—15 sensim decrescentia, inferiora subrhomboideo-lanceolata utrimque attenuata acuta subpetiolata vel pariter ac media basi angustata sessilia, superiora anguste lanceolata vel in formis putatis ovato-lanceolata vel fere ovalia basi rotundata sessilia, omnia rigida v. subcoriacea utrimque serrato-3—4-dentata, saturate viridia, supra glabra subnitentia, subtus pallidiora disperse brevissimeque pilosa et (praecipue media et superiora) subfloccosa, in margine breviter ciliata, summa utrimque subfloccosa minus dentata. Inflorescentia paniculata suprafastigiata, acladium ad 25 mm longum, rami primarii plerumque pauci remoti, ordines axium 3—4, capitula pauca vel ad 15. Involucrum ad 9 mm longum ovatum, squamis subirregulariter imbricatis sublatiusculis obtusiusculis v. acutiusculis viridiatris plerumque epilosis sparsim brevissimeque glandulosis basin versus subfloccosis. Pedunculi subcani 1—2 bracteati epilosi, interdum una altera glandula brevi obsita. Flores saturate lutei, stylis obscuris.

Tirolia borealis: In pratis declivibus muscosis inter larices ad Egerdach pr. Innsbruck, 600 m, Hall (Murr), Patsch (de Benz sub norm. *Ausserdorferi*).

Exsiccata: Zahn, Hieracioth. Europ. no. 87 (e loco class., leg. J. Murr). Planta publicata est forma putata ssp. *deltophylloides*, foliis remotis ovato-lanceolatis tantum denticulatis, squamis latiusculis obtusis v. obtusiusculis plerumque eglandulosis epilosis. Quotannis Junio ante florem secatur, quare vix aliter ac „putatum“ (autumno) provenit.

Tab. 260. *H. laevigatum* Willd. ssp. *deltophylloides* M. et Z. (planta normalis, leg. Murr). 1. Squama. 2. Pedunculus sub involucre.

Species intermediae.

149. Hieracium illyricum Fries, Epicr. (1862) p. 71 = **laevigatum—porrifolium** (vel *glaucum*) Zahn, in Koch Syn. (1901) p. 1904; *H. porrifolium—tridentatum* N. P. II. p. 52 (1886—1889). — Huc pertinent *H. calcareum* Fries, Symb. 1848 p. 83; *H. glaucum* γ *calcareum* Gren. Godr., Fl. fr. II (1850) p. 354; *H. glaucum* δ *saxetanum* A.-T., Monogr. 1873 p. 19; *H. graveolens* Froel., in DC., Prodr. VII (1838) p. 219; Griseb., Comm. 1852 p. 71; *H. politum* Griseb. l. c. p. 73 et Rehb. fil., Deutschl. Fl. XIX (1860) p. 118, tab. 213 fig. 1;

H. saxatile Willd., Sp. pl. III 3 (1800) p. 1576 p. p.; Schultes, Öst. Fl. II 1815 p. 436 p. p.; Griseb. l. c. p. 51; *H. saxatile* var. *latifolium* Hausm., Fl. Tir. 1854 p. 535; Neir., Fl. N.-Östr. 1859 p. 436 p. p.

In ditione *H. porrifolii* vel rarius *H. glauci*: Tirolia australis, Carinthia, Carnia, Goritia, Istria, Austria, rarissime in Transsilvania et Hungaria. — Flor. Aug.

A cl. N. P. 13 subspecies l. c. descriptae sunt.

Subspecies **trilacense** Murr (e grege *Crinopodium* N. P.), apud Murr, in Kat. Wien, bot. Tauschver. (1899) p. 128; Zahn, in Koch Syn. 1901 p. 1905. Caulis ad 30 cm altus tenuissimus, epilosus, eglandulosus, effloccosus, phyllopodus, eriopodus. Folia rosularia numerosa lineari-lanceolata acutissima glauca *remote subdentata*, in nervo dorsali praecipue basin versus subdense pilosa, pilis mollissimis 3—5 mm longis; caulina 2—4 linearia v. subulata, epilosa, effloccosa. Inflorescentia laxissime paniculata squarrosa oligocephala, acladio ad 60 mm longo, ramis primariis 2—4 remotis 1—3-cephalis arcuato-erectis. Involucrum 9—11 mm longum ovato-cylindricum, squamis sublatiusculis acutis obscuris praecipue marginem versus cano-floccosis, eglandulosis, subepilosis. Pedunculi 3—5 bracteati, superne dense floccosi, epilosos eglandulosique. Flores lutei, styli obscuri, achaenia obscura.

Tirolia australis: Terlago (J. Murr), S. Doná pr. Trient (Gelmi).

Tab. 261. *H. illyricum* Fr. ssp. *trilacense* Murr (pr. Terlago leg. J. Murr). 1. Squama. 2. Pedunculus sub involuero.

Subspecies **baldense** N. P. II p. 56. Caulis ad 45 cm altus gracilis, epilosus, sub-floccosus, eglandulosus, profunde ramosus, phyllopodus. Folia rosularia numerosa + lanceolata acutissima dentata rigida vix petiolata, praecipue in nervo dorsali basin versus molliter pilosa, 4—6 mm, interdum in margine subfloccosa; caulina 3—5 linearia. Inflorescentia alte furcata squarrosa 3—10-cephala, acladio ad 80 mm longo, ramis primariis 2—5 \pm remotis arcuato-erectis superne leviter incrassatis, 1—3 cephalis. Involucrum 11—12 mm longum cylindricum basi rotundatum, denique globosum, squamis latiusculis acutis obscuris \pm dense, in margine densissime floccosis, eglandulosis, sparsim breviterque pilosis. Pedunculi ad 10-bracteati, \pm dense floccosi, eglandulosi, epilosos. Flores lutei, styli subobscuri, achaenia atra.

Variat: 1) *normale* N. P. — Tirolia australis: Mte Baldo 700—800 m, Mori, Sardagna pr. Trient (Naegeli), Gordolo, Covelto (Sardagna). Secundum cl. Naegeli etiam in Tirolia boreali: in vallecula versus m. Rotstein ad iugum Fernpass 1300 m (?).

2) *pilosiusculum* N. P. II p. 56; *H. saxetanum* Fries, Hierac. Europ. exs. no. 47 b; *H. Papperitzii* Rchb. fil., Icones XIX (1860) p. 117 tab. 210 fig. 2. Involucra et pedunculi subpilosa, squamis obtusis disperse glandulosis. — Tirolia: Mori (Naegeli). — Helvetia: Morlon in pago Friburgensi (Lagger). Haec planta Helvetica ex mea sententia intermedia est inter *H. laevigatum* Willd. et *H. Delasoiei* Lagger.

Exsiccata: Hierac. Naegeliana no. 330 (var. 1).

Tab. 262. *H. illyricum* Fr. ssp. *baldense* N. P. (pr. Mori leg. J. Murr).

150. Hieracium Dichtlianum Wiesbaur, exs. et in Öst. bot. Zeitschr. (1881) p. 271; Dichtl, in Deut. bot. Monatsschr. (1884) p. 91; G. Beck, Fl. N.-Öst. p. 1287; = **laevigatum**—(**vulgatum**—**silvaticum**—**glaucum**)—**laevigatum**—**caesium**; *H. laevigatum*—*glaucum*—*silvaticum* Zahn, in Koch Syn. (1901) p. 1905; *H. caesium*—*vulgatum* Halacsy, Fl. N.-Öst. (1896); *H. vulgatum*—

caesium? G. Beck l. c.; *H. carnosum* \times *saxatile* (vel *glaucum*) Freyn, apud Dichtl l. c. Caulis ad 55 cm altus, saepe usque ad basin floccosus, eglandulosus, phyllopodus. Folia rosularia pauca oblonga, in petiolum \pm longum sensim angustata, interiora plerumque longiora; caulina plerumque 3—6 (—10) sensim decrescentia, inferiora breviter petiolata, superiora angustiora lanceolata basi breviter cuneata sessilia, omnia acuminata, sinuato-basin versus saepe profunde dentata, subtus glaucescentia albido-viridia \pm floccosa et breviter pilosa, saepius in parte superiore \pm brunneo-maculata. Inflorescentia paniculata v. alte furcata indeterminata; acladium 2—10 cm longum, rami primarii 3—7 valde remoti arcuato-erecti, 1—2-pliciter ramulosi, pariter ac caulis epilosi; capitula 10 vel numerosa. Involucrum 11—13 mm longum + eglandulosum, pilis solitariis obsitum, pariter ac pedunculi dense canofloccosum, squamis angustis acuminatis acutis. Flores lutei, styli obscuri, achaenia subatra. — Floret fine Iun., Iul.

Austria inferior: Per zonam calcaream p. Vindobonam: Gaden (Wiesbaur), Brühl, Sebenstein (Wiesbaur, Dichtl).

Tab. 263. *H. Dichtlianum* Wiesb. (pr. Gaden leg. Wiesbaur). 1. Squama. 2. Pedunculus sub involucrio. 3. Nervus dorsalis foliorum.

151. Hieracium Harzianum Zahn = **laevigatum—franconicum** Zahn = **laevigatum—(silvaticum—bupleuroides)** Zahn, Allgem. bot. Zeitschr. (1906) no. 3.

Subspecies **Harzianum** Zahn l. c. Habitu *H. laevigati*. Caulis 60—70 cm altus crassus subsulcato-striatus breviter subsparsumque pilosus, superne breviter subglandulosus et sat dense medioeriterve floccosus, inferne subfloccosus vel fere effloccosus, basin versus intense violaceus, hypophyllopodus vel aphylllopodus, haud raro ex omni ala squaroso-ramosus. Folia radicalia complura ad 18 cm longa lanceolata, utrimque longe attenuata acuta, in petiolum late alatum basi subvaginantem decurrentia, 2—3 dentibus lanceolatis antrorsum versis ad 8—10 mm longis munita, sed florendi tempore pariter ac plerumque caulina inferiora emarcida; caulina 20—25 sensim decrescentia lanceolata, maiora 10—20 cm longa 1,5—3,5 cm lata, utrimque longe attenuata acuta, sessilia, inferiora alato-subpetiolata, reliqua sensim breviora angustioraque, in bracteas decrescentia, omnia rigidiuscula vel subcoriacea serrato-dentata, dentibus 2—3 antrorsum arcuatis lanceolatis ad 10 mm longis munita, in superiore tertia parte integerrima, supra glabra sublutescenti-viridia glaucescentia, in margine nervoque dorsali pilis subrigidiusculis 1—2 (—3) mm longis ciliata, in parte aversa molliter breviterque subpilosa et praetera subfloccosa, in nervo dorsali densius floccosa. Inflorescentia valde indeterminata laxa paniculata squarrosa, interdum rami inferiores haud evoluti gemmas albidas formantes; rami primarii 8—30, inferiores elongati subfoliosi oblique patentes, ordines axium 4—5, capitula 20 vel valde numerosa, inferiora in ramis plerumque haud evoluta gemmiformia; acladium ad 30 mm longum, 3—5 bracteis subulatis obsitum. Involucrum 11—12 mm longum crasse ovatum denique ventricosum late depressum; squamae imbricatae sublatiusculae lanceolatae acuminatae obtusiusculae vel acutae, obscurae vel obscure virides, exteriores in margine basin versus (praecipue in capitulis iunioribus) sat dense floccosae, interiores in margine + late viridi-marginatae, dorso parcefloccosae, sed omnes pilis 1—2 mm longis dilutis basi atris glandulisque obscuris saepe longis modice numerosis vel minus numerosis obsitae. Pedunculi obscure virides sat dense floccosi sparsissime pilosi modice

glandulosi. Flores saturate lutei, ligulae apice glabrae, stylus initio subluteus denique brunneus, achaenia atra ad 4,5 mm longa.

Bavaria: In monte Ehrenbürg pr. Forchheim Franconiae superioris (detexit Dr. Harz Bambergensis).

Variat (pariter ac *H. franconicum*) foliis haud maculatis (1. *normale* Z. l. c.) et foliis supra eximie maculatis (2. *maculatum* Z. l. c.).

Exsiccata: Zahn, Hieracioth. Europ. no. 388.

Tab. 264. *H. Harzianum* Zahn ssp. *Harzianum* 1. *normale* Zahn (e loco classico, leg. Harz). 1. Squama. 2. Pedunculus sub involuero.

In Allg. bot. Zeitschr. l. c. aliam subspeciem: *H. pseudofranconicum* Harz et Zahn, in m. Ehrenbürg a cl. Harz detectam, formulae *laevigatum* < *franconicum* respondentem descripsi. Habitu *H. vulgati*, folia caulina tantum 7—15, caulis (15—) 20—35 cm altus, involucrium 9—10 mm longum, etc.

152. Hieracium norvegicum Fries, Symb. 1848 p. 169; Epier. 1862 p. 115; Dahlst., Bidr. Sydöstr. Sverig. Hierac.-Fl. III (1894) p. 210; Zahn in Koch Syn. 1901 p. 1906; Reichb., Comp. tab. 191 fig. 1 (1860): — *laevigatum*—*saxifragum* Zahn; *laevigatum*—*Schmidtii* Zahn in Koch Syn. l. c.

Caulis gracilis ± erectus substrictus striatus, aphyllopodus vel hypophyllopodus, rarius phyllopodus, 30—70 cm altus, superne subglaber vel subpilosus, basin versus plerumque subdense pilosus et saepe + rufescens. Folia rosularia pauca oblongo-lanceolata in petiolum alatum sensim angustata, exteriora obtusiuscula, reliqua acutiora v. acuta, denticulata v. 3—5-dentata, glandulis solitariis minutissimis obsita, florendi tempore haud raro emarcida; caulina 4—8 (—12), ima radicalibus similia sensim acuminata, basi angustata subpetiolata, 3—5 dentata, superiora ± sensim decrescens basi ± cuneata sessilia, omnia sordide viridia subglauescentia per exsiccationem lutescentia, supra glabra lucida rarius disperse pilosa, in margine et praecipue basin versus sparsim vel sudensius setoso-pilosa, subtus disperse, in nervo mediano subdensius pilosa, pallidiora, sed variant etiam subglabra, summa subtus ± floccosa, in margine saepe subrevoluta, apice haud raro curvato-plicata, supra medium integerrima saepe subulato-acuminata, inferiora plerumque in margine nervoque dorsali + sparsim floccosa. Inflorescentia laxa paniculata 6—15 (vel pleio-) cephalis valde suprafastigiata ± indeterminata, caulis saepe ex omni ala ramosus, acladio 15—40 mm longo, ramis 3—5 vel numerosioribus remotis oblique arcuato-erectis vel ± patentibus longis 1—2-pliciter ramulosis. Involucra submagna 10—14 mm longa globoso-ovata denique truncata, squamis subangustis vel sublatiusculis acuminatis, exterioribus brevioribus obtusiusculis, interioribus ± lanceolatis plerumque cito attenuatis obtusiusculis vel ± acutis, obscure canis + late albidomarginatis, pilis disperse vel submodice numerosis brevibus + dilutis, glandulis sparsis saepe minutis et floccis subnumerosis vel densis obsitis. Bracteae 3—4. Pedunculi ± canofloccosi + sparsim glandulosi plerumque pilis solitariis praediti. Flores aureolutei, ligulis apice plerumque subglabris, stylis luteis, achaenia atra. — Flor. Iunio—Iulio.

Praecipue in *Scandinaviae* australis regionibus humilioribus pervulgatum.

Subspecies *trothanum* Zahn, caule phyllopodo v. hypophyllopodo 4—6 foliato, foliis infra medium 3—4 dentatis vix disperse pilosis, involucri (11—13 mm longis) pedunculisque sparsim glandulosis, ligulis apice glabris.

Germania: In saxosis porphyraceis ad oppidum Trotha Saxoniae (A. Schulz 1895 sub nom. „pallescens“).

Apud *Fries* etiam ad arcem Dollenstein pr. Eichstätt Bavariae; secundum *Dichtl*, in Deut. bot. Monatsschr. 1884 p. 91, pr. Sebenstein ad fl. Pitter Austriae inferioris.

Tab. 265. *H. norvegicum* Fr. ssp. *trothanum* Zahn (ad Trotham leg. A. Schulz). 1. Squama. 2. Pedunculus sub involucri. 3. Foliorum margo.

153. Hieracium inuloides Tausch, in Flora 1837, Erg.-Bl. I p. 71; *H. crocatum* Fr. Symb. 1848 p. 183 p. p.; *Epier.* 1862 p. 124 p. p.; nec *Wimm.*; *H. corymbosum* Fr., Symb. p. 185, *Epier.* p. 123; nec *Pers.*; *H. Eupatorium* Griseb., Comm. 1852 p. 51; *H. Tauschianum* Uechtr. apud *Fiek*, Fl. Schles. 1881 p. 281; *H. prenanthoides* \times *umbellatum* F. Schultz, Archives 1854 p. 24; *Schultz-Bip.*, Archives 1855 p. 132; *H. boreale lanceolatum* Godron, Fl. Lorr. ed. I II p. 81; *H. confusum* Jord. apud *Sch.-Bip.* l. c.; — **laevigatum—prenanthoides** (*lanceolatum*) Zahn, Koch Syn. p. 1907.

Caulis 30—100 cm altus, gracilis vel crassiusculus, solidus vel \pm fistulosus, strictus vel \pm flexuosus, erectus, \pm intense striatus, saepissime \pm rufescens, aphyllopodus. Folia caulina numerosa (ad 30) sensim in bracteas decrescentia, lanceolata, oblongo-lanceolata (raro lineari-lanceolata) vel (superiora) elliptico-lanceolata, ima basi angustata saepe subpetiolata sed florendi tempore plerumque emarcida, sequentia \pm angustata sessilia subamplexicaulia, media superioraque basi lata rotundata vel subcordata \pm amplexicaulia, summa basi lata sessilia vix amplexicaulia \pm cito acuminata, omnia acutiuscula vel acuta, in margine saepe subrevoluto denticulata vel argute dentata, dentibus nonnullis maioribus (more *H. laevigati*) munita, raro \pm integerrima, supra saepe sublucida, dilute vel saturate viridia, subtus subglaucescentia \pm intense reticulato-venosa vel nervis prominentibus praedita, \pm rigida vel subcoriacea, raro submolliora (inferiora). Inflorescentia ad $\frac{1}{3}$ totius caulis exhibens, paniculata vix suprafastigiata, 5-polycephala, apice interdum subumbellata; acladium breve vel ad 30 mm longum; rami 3—8 vel complures, subtenues, inferiores \pm remoti oblique erecti, apice 1—2 (—3)-pliciter ramulosi. Involucrium 9—12 mm longum \pm ovatum basi (inito saepe in pedunculum attenuatum) rotundatum denique \pm truncatum. Squamae subangustae vel plerumque \pm latiusculae v. latae lanceolatae \pm obtusae (exteriores saepe obtusiusculae \pm laxae), obscure virides vel atrae, interiores plerumque viridi- vel dilute marginatae. Bracteae 2—3 (—4). Pili in involucri caulomatibusque nulli vel dispersi v. subnumerosi, in foliorum parte superiore nulli vel sparsi, in margine subtusque dispersi vel modice numerosi v. etiam subnulli, in margine saepe apice destructi trunciformes. Glandulae involucri sparsi vel mediocres, in pedunculis nullae vel dispersae. Flocci involucri subnulli vel praecipue basin versus dispersi vel subnumerosi, in pedunculis dispersi vel subdensi, deorsum cito deminuti, interdum usque ad caulis medium descendentes, in foliis nulli vel in margine nervoque dorsali vel in parte aversa superiorum sparsi vel subnumerosi, in summis haud raro etiam in parte superiore \pm evoluti. Flores aureo-lutei, ligulis apice plerumque glabris, stylo \pm obscure luteo vel obscuro; achaenia dilute rubrobrunnea vel subatra. — Flor. Aug.—Sept.

Pyrenaei, Cantal, Puy-de-Dôme, Vogesi, Silva Nigra, Jurassus, Alpes Helvetiae et Austriae, Tatra, Sudeti, Caucasus, Scandinavia, Britannia.

Subspecies **inuloides** Tausch l. c.; *H. prenanthoides* γ) *strictum* *Wimm.*, Fl. Siles. ed. 3 p. 314; *H. Tauschianum* Uechtr. in *Fiek*, Fl. Schles. p. 281 p. p. Caulis (20—) 30—45

—60) cm altus solidus indistincte striatus apice pariter ac rami pedunculique subater, medio viridis vel rubro-maculatus, basi rufescens et rigide pilosus, sursum \pm glaber laevigatus, (1—) 2—4 (—10)-cephalus, dense foliosus. Folia viridia, subtus pallidiora et indistincte reticulato-venosa, in margine tantum, ima etiam subtus subpilosa, in reliquis partibus pariter ac media summaque glabra. Folia caulina oblonga vel oblongo-vel lineari-lanceolata, acuta inferiora summaque parum, media semi-amplexicaulia, omnia denticulata vel argute dentata, ima basi angustata subpetioliformia, subelliptico-lanceolata obtusiuscula, florendi tempore fere semper emarcida, summa subtus vix floccosa. Involucrum 10—11 (—12) mm longum semiglobosum glandulis minutis sparsissimis, floccis sparsis pilisque valde solitariis obsitum, haud raro subglaberrimum. Squamae latae obtusae viridi-atrae per exsiccationem aterrimae intimae vix dilutius marginatae. Ligulae glabrae, stylus aureoluteus denique obscurus Achaenia obscure rubrobrunnea v. atrobrunnea.

In m. Asciburgensibus (Tausch, Pl. select. flor. Bob. fasc. 2!); Kesselkoppe (Trautmann, Rehborn (Pax), Krkonos (Freyn), Petersteine. Altvater (Oborny), Glatzer Schneeberg (Freyn), Lysý vrch (Domin), Franzens Jagdhaus (Oborny). — Tatra: Inter Poppersee et Csorba-see (de Benz).

Exsiccata: Callier, Fl. Siles. 865.

Tabula 266, Fig. A. *H. inuloides* Tausch ssp. *inuloides* Tsch. (leg. A. Oborny).

Subspecies **lanceolatifolium** Zahn; ssp. *inuloides* β) *lanceolatifolium* Zahn, in Koch Syn. 1901 p. 1908; *H. corymbosum* Hanbury in sched.; *H. strictum* Kirschleger in sched. Praecedenti subspeciei similis. Squamae atriusculae disperse vel modice floccosae disperse glandulosae, interiores viridi-marginatae. Folia late v. ovato-lanceolata, praecipue superiora subtus + floccosa, media inferioraque in margine subciliata.

Badena: in declivitatibus Baldenwegerbuck ad m. Feldberg (Zahn); Vogesi: in m. Rotenbacher Kopf et ad lac. Schwarzer See, inter Altenweier et Rheinkopf (Bernoulli, Issler: Vorarlbergia: Stuben 1500 m (Zahn); Carinthia: in iugo Ploeken (Pichler); Austria inferior: ad catarractas Lassingfall pr. Wienerbüchl (Sonklar); Helvetia: am Bühl supra Realp (Correns). — Scotia.

Exsiccata: Zahn, Hieraciotheca Europaea 93, 95.

Tab. 267. *H. inuloides* Tausch ssp. *lanceolatifolium* Zahn (in m. Feldberg Badenaee legi). 1. Squama. 2. Foliorum nervus dorsalis.

Subspecies **striatum** Tausch, in Flora 1837, Erg.-Bl. I p. 71; Zahn, in Koch Syn. 1910 p. 1909; *H. striatum* Tausch p. p. minore in sched.!; *H. corymbosum* var. *pachycephalum* Fries in litt. ad Uechtr.; Uechtr. in Fiek l. c. p. 282; *H. prenanthoides* β) *lancifolium* Wimm. Grab. p. p.; *H. cydoniifolium* Griseb., Comm. p. p.; *H. Tauschianum* b. *pachycephalum* Uechtr. l. c. p. 282. Caulis 40—60 cm altus \pm crassiusculus, intense striatus, fistulosus, pilis dilute canescentibus \pm basi atrobubosis subdense hirsutus, basi saepe glabrior. Folia lanceolata vel oblongo-lanceolata, denticulata vel dentata, in margine subtusque (raro utrimque) breviter subdenseque hirsuta, subtus \pm floccosa, pallidiora et distincte reticulato-venosa, per exsiccationem facile lutescentia. Inflorescentia 3—10 (—30)-cephala, acladium brevissimum vel ad 15 mm longum, rami 3—5 (—9), summi appropinquati, reliqui ex foliorum alis orti oblique erecti, usque ad caulis medium descendentes. Involucrum 10—12 mm longum semiglobosum denique ventricosum-depressum. Squamae latiusculae obtusae lanceolatae subatrae interiores obscure viridi-marginatae, pilis obscuris solitariis, floccis dispersis glandulis-

que numerosis minutis obsitae. Bractee 2—3. Pedunculi graciles erecti, raro divaricati vel arcuati, canofloccosi et disperse vel dense pilosi glandulosique. Flores dilute lutei, stylo obscure brunneo; achaenia dilute rubro-brunnea; ligulae apice glabrae.

Sudeti orientales: Glatzer Schneeberg (Tausch), Altvater 1490 m (Wetschky), Hirschkamm (Freyn), Janowitz Haide, Grosser Kessel (Grabowski), Kleiner Kessel (Bachmann), Fuhrmannsteine, Brünnelhaide, Franzens Jagdhaus (Oborny), Schlössel (Freyn), Petersteine (Pospichal), Mentschikgraben (Uechtritz). — Forma *stylosa* Uechtr. l. c. — Grosser Kessel (Freyn).

Exsiccata: Callier, Fl. Siles. exs. 867.

Tab. 266, Fig. B. *H. inuloides* Tausch. ssp. *striatum* Tsch. (e m. Glatzer Schneeberg, leg. Oborny).

Subspecies *pseudostriatum* Zahn, in Koch Syn. 1901 p. 1908; *H. Tauschianum* β) *striatum* Uechtr. in Fiek, Fl. Schles. p. 281; *H. striatum* Tausch. in sched. p. p. maiore; *H. prenanthoides* γ) *dentatum* Tausch, Fl. sel. Boh. fasc. I; *H. corymbosum* Fr. in sched. p. p. Caulis superne plerumque intensius striatus, saepe usque ad medium \pm floccosus, subpilosus. Folia subpilosa minus amplexicaulia per exsiccationem \pm lutescentia, ima fere subpetiolata. Capitula pauca. Squamae latiusculae obtusae, glandulis sparsis, pilis brevibus dilute canescentibus floccisque sparsis vestitae. Pedunculi subsparsum glandulosi, disperse albopilosi, pariter ac foliorum pars aversa modice vel subdense floccosi. Achaenia atrobrunnea.

In m. Asciburgensibus: Rehborn (Pax); **Sudeti orientales:** Glatzer Schneeberg (Tausch), Köpernikstein (Winkler), Brünnelhaide (Oborny), Grosser Kessel (Uechtritz), Altvater (id.), Hockschar 1300 m (Oborny), Dreisteine pr. Goldenstein, forma pedunculis tomentosis (id.). — **Tatra:** inter Poppersee et Csorbasee (de Benz), ad initium vallis Mengsdorfer Tal pr. Csorba (de Degen). — **Anglia:** Westmoreland (Fox).

Exsiccata: Callier, Fl. Siles. exs. 866; Zahn, Hieraciotheca Europ. 492.

β) *calvescens* Zahn, Koch Syn. p. 1908, involucris pedunculisque glabrioribus. **Badena:** Feldberg (Zahn); Kessel in m. Gesenke (Tausch).

Subspecies *tridentatifolium* Zahn, Mitt. Bad. bot. Ver. 1899 p. 150; *H. corymbosum* Fries in litt. ad Vulpium! Planta fere glabra, in foliorum margine truncis brevibus pilorum destructorum obsita. Folia late v. anguste lanceolata dilute viridia basi minus amplexicaulia, + grosse serrato-dentata, distincte reticulata, summa subtus disperse floccosa. Capitula 8—20. Involucrum disperse floccosum, pilis glandulisque sparsis obsitum vel subepilosum, squamis sublatiusculis. Pedunculi canescentes, pilis glandulis sparsis obtekti.

α) *genuinum* Zahn; *H. crocatum* F. Schultz, Archives 1854 p. 24; *H. inuloides* var. *intermedium* Zahn in Doerfler, Herb. norm. no. 3565. — **Vogesi:** Hoheneck (Martin); **Badena:** Feldberg (Vulpium); **Helvetia:** Salève: au Coin (Chenevard), Engadina inferior (Muret, Killias), Giessbach supra lac. Brienzer See (Chenevard). — **Scotia.**

Exsiccata: Schultz-Bip., Cichoriaceoth. suppl. II no. 146; F. Schultz, Herb. norm. nov. ser. cent. VI no. 545; Zahn, Hieracioth. Europ. 94.

Tab. 269. *H. inuloides* Tausch ssp. *tridentatifolium* Zahn (in m. Feldberg legi). 1. Squama. 2. Pedunculus sub involucre.

β) *subtridentatum* Zahn, Koch Syn. p. 1909, inflorescentia ut in *H. tridentato*, apice saepe umbellata.

- 1) normale Z., involucro tantum glanduloso. — Tirolia: Jaufen (Murr). — Exsicc.: Doertler, Herb. norm. no. 4360; Zahn, Hieracioth. Europ. 92.
- 2) angustifolium, foliis lanceolatis denticulatis, in margine subtusque brevissime pilosis; pedunculis albido-floccosis, pilis glandulisque dispersis obsitis. — Ibidem (Murr).
- 3) lanatum caule basin versus, foliis in parte aversa et praecipue in nervo dorsali dense molliterque et sublonge pilosis. — Ibidem (Murr).
- γ) **subgothicum** Zahn, Koch Syn. l. c., caule dense foliato, foliis lanceolatis serrato-denticulatis basi angustata ± amplexicaulibus, in margine subtusque truncis brevibus numerosis pilorum destructorum obsitis subfloccosisque; squamis atriusculis pilis glandulisque dispersis munitis; pedunculis canis subepilosis subeglandulosisque. — Tirolia: in m. Jaufen supra Schluppes (Murr), Mullitz in valle Virgental (Ausserforfer); Luttach, (Treffer). — Exs.: Flora Austro-Hung. 3379 p. min. p.
- δ) **asteriforme** Arv.-Touv., Ann. jard. bot. Genève 1897 p. 86, involucris pedunculisque modice vel subdense floccosis subglandulosis; foliis vix modice pilosis longius acuminatis; achaeeniis subatris. — Jurassus: La Lignière supra Neuchâtel (Chaillet).

Subspecies **subconicum** Murr et Zahn; *H. conicum* β) *gothiciforme* Zahn, in Koch Syn. 1901 p. 1913. Priori valde affine; foliis rigidis anguste lanceolatis, marginibus subparallelis, argute serrato-denticulatis, inferioribus breviter subciliatis; pedunculis subcanofloccosis fere semper eglandulosis epilosis, capitulis viridi-atris subeglandulosis.

Tirolia: Ad iugum Jaufen supra viculum Schluppes (Touton, Murr).

Tab. 268. *H. inuloides* Tausch ssp. *subconicum* M. et Z. (in iugo Jaufen leg. Murr).

1. Pedunculus sub involucro.

Subspecies **Poellianum** Zahn. Caulis 40–60 cm altus crassiusculus subhirsutus. Folia caulina ad 30, inferiora lanceolata basi petioliformi sessilia acutiuscula, utrimque dentibus 1–3 grossis et compluribus parvis munita, saepe violacea nervo mediano diluto, dilute viridia, vix reticulato-venosa, media latiora, oblongo- vel elliptico-lanceolata basi rotundata sessilia parum amplexicaulia, leviter reticulato-venosa, supra glabra, pariter ac inferiora in parte aversa margineque breviter subpilosa, media summaque subtus ± subfloccosa, inferiora etiam in parte superiore sparsim pilosa, summa ovato-lanceolata. Inflorescentia ad 20 vel pleiocephala, ramis ad 10. Involucrum 10 mm longum ovato-globosum, squamis latis obtusis obscuris viridi-marginatis disperse pilosis glandulosisque, basi sparsim floccosis. Pedunculi apice subincrassati 3–4 brateati dense floccosi disperseque pilosi.

Tirolia: In declivitatibus dextris fluminis ad pagum Kals 1370 m (Zahn), Mühlsteig pr. Oberlesach (Gauder), ad pontem infra pagum Kals (Zahn), Meliggraben in valle Virgental (Gander), in valle Gsies (id.), ad Windisch-Matrei (Ausserdorfer).

Getrocknet: Zahn, Hieraciotheca Europ. 494.

Tab. 270. *H. inuloides* Tausch ssp. *Poellianum* Zahn (pr. Kals legi). 1. Squama.

2. Pedunculus sub involucro.

154. Hieracium lycopifrons Deg. et Zahn, in Mag. bot. lap. 1906 p. 74 **inuloides—laevigatum** Zahn l. c.

Caulis ad 80 cm altus crassiusculus, inferne violaceus, angulato-striatus sparsim tenuiterque pilosus, superne sensim magis floccosus, viridis, aphyllopodus. Folia caulina ad 16–20,

inferiora late lanceolata minus longe acuminata acutiuscula vel acuta, in petiolum alatum longe attenuata mucronate denticulata vel dentata, mollia, dilute viridia subtus pallidiora, utrumque disperse breviterque pilosa, in margine nervoque dorsali sat dense breviterque pilosa (0,5—1 mm), sequentia longius acuminata basin versus longe attenuata, sessilia, reliqua sensim brevius angustata sed longius acuminata, media utrumque 2—3 dentata, dentibus elongatis antrorsum arcuatis et denticulis paucis minutis praedita, summa basin versus subaequilata vel basi rotundata \pm sessilia, dentata, margine subrevoluto scabra, subtus triplicinervia \pm floccosa. Inflorescentia paniculato-corymbosa. Acladium 15 mm longum, rami primarii 5—10, infimi saepissime non evoluti, ordines axium 3 (—4), capitula 15 (—35). Involucrum late globosum depressum 10—11,5 mm longum. Squamae latae obscurae acuminatae obtusae, pilis basi atris breviter subpilosae, disperse glandulosae subeffloccosae. Pedunculi dense tomentosi, pilis brevibus destructis et magis elongatis apice dilutis praediti, sparsim glandulosi, glandulae brevissimae. Flores saturate lutei, ligulae apice glabrae, stylus obscurus, achaenia obscure brunnea.

Tatra: In silvis ad Tatrafüred rarissime (Czakó); Vogesi: ad m. Hoheneck (Issler).
Tab. 271. *H. lycopifrons* Deg. et Zahn (e m. Hoheneck, leg. Issler).

155. Hieracium constrictum Arv.-T., Addit. à Monogr. 1871 p. 16; Zahn, in Koch Syn. 1901 p. 1909; Hierac. d. Schw. 1906 p. 518; *H. praecelesum* Ravaud p. p. apud A.-T., Essai de classif. p. 12, nec Jord.; = **laevigatum** < **prenanthoides** Zahn l. c.

Caulis ad 80 cm altus subdense diluteque pilosus, aphyllopodus. Folia caulina 9—16 subremota sensim decrescentia, inferiora in petiolum alatum sensim angustata, oblonga v. oblongo-lanceolata, media basi cuneata \pm amplexicaulia, summa sessilia vel semiamplexicaulia, omnia denticulata vel dentata sublonge acuminata \pm mollia tenuiaque, dilute vel saturate viridia, subtus pallidiora et distincte reticulato-venosa simul modice, in margine subdense pilosa, 1—2 mm. Inflorescentia paniculata 5—20 (vel poly-) cephal; acladium brevissimum vel 15 (—25) mm longum, rami plerumque numerosi, superiores appropinquati, reliqui remoti oblique ascendentes 1—2-pliciter ramulosi. Involucrum 9—10 mm longum ovatum denique basi truncatum. Squamae subangustae obtusiusculae canescenti- vel atro-virides dilute viridimarginatae. Pili in involucrio pedunculisque dispersi, glandulae ibidem numerosae plerumque tenues. Flocci involucri modice numerosi, pedunculi dense floccosi, caulis deorsum mox effloccosus, folia \pm effloccosa. Flores lutei, ligulis vix ciliatis, stylis brunneis. Achaenia rubrobrunnea v. subatra. — Flor. Iulio, Aug.

Delphinatus, Pedemontium, Sabaudia, Helvetia occidentalis, Rhaetia.

Variat: α) **genuinum** Zahn, Hierac. d. Schw. p. 519, caule ubique subdense breviterque piloso.

1) **normale** Z. l. c., involucris disperse pilosis. — Helvetia: Randogne et Cran prope Lens 1250 m (Besse), Lourtier (Rikli), Evolena, Schalberg (Besse); Bellegarde, Gsteig (Jaquet).

2) **epilosum** Zahn l. c., involucris tantum tenuiter glandulosis. — St. Rhémy, Valpelline, Aosta (Besse), Courmayeur, Pré-St-Didier, in valle Cogne (Vaccari, Besse).

β) **runense** Zahn l. c., caulibus involucris foliisque parcepilosis. — Rhaetia: Brigels (Brügger).

Tab. 272. *H. constrictum* A.-T. α *genuinum* 1) *normale* Z. (ad Lens, leg. Besse).

Sectio XVI. **Umbellata** [Fries, *Epier.* 1862 p. 132 p.p.; A.-T., *Hier. Alp. fr.* p. 124; Zahn, in *Koch Syn.* p. 1910; Stirps *H. umbellati* Fr., *Symb.* 1848 p. 77 p.p.; *Vulgata* Griseb., *Comm.* 1852 p. 36 p.p.; *Accipitrina Umbellata* A.-T., *Monogr.* 1873 p. 46]. — Inflorescentia \pm umbellata deorsum paniculata. Squamae fere semper epilosae, eglandulosae effloccosae. \pm regulariter imbricatae, exteriores \pm patentes vel apice recurvatae, semper obtusae. Folia numerosissima conformia aequaliter distantia, basin versus angustata sessilia, rarissime basi lata sessilia, in margine \pm revoluta. Achaenia brunneo-atra. Receptaculum distincte dentatum vel fibrillosum.

156. Hieracium umbellatum L., *Sp. pl. ed. 1* p. 804 (1753); *ed. 2* p. 1131 (1763); Froel., in *DC. Prod.* VII 1838 p. 224; Fries *Symb.* p. 177; *Epier.* p. 135. — *Flor. Aug.—Oct.*

Subspecies **brevifolioides** Zahn, *Hier. d. Schw.* (1905) p. 523; *H. umbellatum* g) *brevifolium* A.-T., *Hier. Alp. fr.* p. 126; *H. umbell.* var. *latifolium* Pospich., *Fl. Küstenl.* II p. 819; *H. brevifolium* Froel., *DC. Prod.* VII 225 p.p.; A.-T., *Ann. Jard. bot. Genève* 1897 p. 88, nec Tausch! in *Flora* 1828, *Erg.-Bl.* I p. 71; nec Griseb., *Comm.* p. 52 (sub *H. sabauda*); *H. boreale* d) *subsabaudum* Rehb., *Comp. tab.* 182 III; Fries p.p. — Caulis 80—120 cm altus \pm robustus, apice umbellatus deorsum paniculato-ramosus, ramis saepe $\frac{1}{3}$ totius caulis descendentibus. Folia caulina ad 50, omnia basi lata sessilia appropinquata saepe reflexa, coriacea, denticulata v. grosse sinuato-dentata.

Gallia orientalis; Helvetia occidentalis: Lavey, Bex, Aigle, Ollon (Muret); Helvetia austr.: Chiasso, Agno (Muret), Lugano (Chenevard); Rhaetia: Haldenstein pr. Curiam (Brügger); Tirolia australis, borealis: Innsbruck; Carnia, Istria, Dalmatia, Croatia, Bosnia, Hungaria.

Tab. 273. *H. umbellatum* L. ssp. *brevifolioides* Zahn (pr. Bex legit Jaccard).

Species intermediae:

157. Hieracium leioccephalum (Bartl.) Griseb., *Comm.* 1852 p. 72; Reichb. *lc.* XIX tab. 210 I; Zahn, *Hier. d. Schw.* 546; nec N. P. II p. 66; *H. leiosoma* N. P. II 621; = **umbellatum—porrifolium** N. P. l. c. — Caulis ad 125 cm altus gracilis vel crassus, aphyllopodus, dense foliosus, foliis lineari- vel anguste lanceolatis acutissimis dentatis vel integerrimis \pm rigidis glaucescentibus sensim decrescantibus sessilibus. Inflorescentia laxa paniculata vel interdum apice \pm umbellata polycephala. Acladium 25—80 (—110) mm longum, rami numerosi \pm tenues v. graciles, inferiores \pm remoti; ordines axium 3—5. Involucrum (8—) 10—11 (—13) mm longum ovatum vel semiglobosum. Squamae angustae v. sublatiusculae acutissimae vel obtusae, virides vel atrae, \pm dilute marginatae. Bractee (5—) 10—15, superiores confertae. Pili ubique nulli vel in foliorum basi parci. Glandulae plerumque nullae. Flocci involucri parci vel basin versus densiores, pedunculi apice subturbinati subfloccosi, folia in parte aversa interdum parce floccosa. Flores lutei, stylis plerumque obscuris. Achaenia dilute brunnea vel atra, 2,8—3,8 mm longa. — *Flor. Aug.—Sept.*

Tirolia australis, Carinthia: Tarvis, Goritia, Italia borealis.

Subspecies **leiosoma** N. P. II 62. Caulis ad 70 cm altus superne subfloccosus. Folia dentata, praecipue inferiora in nervo dorsali subpilosa, superiora subtus saepe parce floccosa.

Involucrum 8—9 mm (cult. ad 11,5 mm) longum, squamis angustis acutis viridibus dilute marginatis epilosis, raro una alterave glandula obsitis, basi subfloccosis. Pedunculi subfloccosi 5—8 bracteati. Stylus obscurus.

Variat: $\alphagenuinum N. P.$

1) normale N. P. — Carinthia: Tarvis 750 m, Goritia: Karfreit ca. 300 m (Peter); Italia: Fiumelatte pr. Varenna (Geilinger).

2) **brevibracteum** N. P., squamis atriusculis dilute marginatis glandulis solitariis obsitis; involucris submaioribus; stylis luteis; achaeniis stramineis. — Trient (Naegeli).

$\betaexumbellatum N. P., squamis obtusis (in horto Monacensi sponte natum).$

Exsiccata: Zahn, Hieraciotheca Europ. 196.

Tab. 274. *H. leiocephalum* (Bartl.) Griseb. ssp. *leiosoma* $\alphagenuinum 2) **brevibracteum** N. P. (prope Trient leg. J. Murr). 1. Squama. 2. Pedunculus sub involucrio. A cl. N. P. l. c. etiam 6 aliae ssp. descriptae sunt.$

158. *Hieracium virgicaule* N. P. II 72 = **umbellatum—bupleuroides** N. P. l. c.

Caulis ad 80 cm altus crassiusculus aphyllopodus, foliis numerosis valde sensim decrescentibus lanceolatis acutis \pm serrato-dentatis, in margine subrevolutis, sessilibus glaucescentibus \pm rigidis obsitis. Inflorescentia paniculata vel apice saepe umbellata, laxa, pleiocephala. Acladium 20—50 mm longum; rami primarii numerosi graciles, ordines axium 3 (—4). Involucrum 11—12,5 mm longum denique + globosum. Squamae latiusculae obtusae vel acutiusculae, obscurae dilutius marginatae, exteriores laxae vel subpatentes. Bractee in acladio 4—7. Pili ubique subnulli. Glandulae nullae vel solitariae parvae. Flocci in involucrio pedunculisque \pm evoluti, in foliorum parte aversa interdum submodice numerosi. Flores lutei, stylo obscuro. Achaenia castanea v. subatra \pm 3 mm longa. — Flor. Aug.

Pienini, Hungaria borealis.

Subspecies **Kaczae** Woł. et Zahn. Caulis ad 60 cm altus sublignosus, usque ad medium disperse floccosus, infra obscure violaceus. Folia rigida lanceolata basi angustata sessilia longe acuminata acuta, remote subdentata, dentibus apice haud glanduliformibus, in margine parum revoluta, subtus distincte venosa, media superioraque in nervo dorsali albido, summa in tota parte aversa subfloccosa, ima in margine tantum sparsim floccosa v. effloccosa; caulina ad 20 evoluta vulgo epilosa, latissima ad 10:1,5 cm longa. Inflorescentia + indeterminata paniculato- et longe ramosa, ramis oblique patentibus substrictis foliosis. Acladium ad 6 cm longum, bracteis 5—8 linearibus sublongis viridibus obsitum; ordines axium 3, capitula ad 18 (rami plerumque 1—2 cephalii, capitula reliqua aborta). Involucrum 11—13 mm longum crasse ovato-globosum, squamis subangustis obscure viridibus dilute viridi-marginatis, interioribus obtusiusculis v. acutiusculis, pilis glandulisque dispersis obsitis, basi tantum parce floccosis, exterioribus angustis. Flores dilute lutei, dentibus sublongis.

Pienini: In fauce fluminis Dunajec sub m. Kacza ad limites Hungariae et Galiciae (E. Wołoszczak).

Tab. 275. *H. virgicaule* N. P. ssp. **Kaczae** Woł. et Zahn (loco classico leg. cl. Woł.). 1. Squama. 2. Squama interior.

A cl. N. P. 2 ssp. descriptae sunt, ssp. quartam in Mag. bot. lap. (1911) descripturus sum.

159. Hieracium speciosum Hornem., Hort. Hafn. 1815 p. 764; N. P. II p. 170; — **umbellatum—scorzonerifolium** Zahn: *villosum—Glauca—sabaudum* N. P. I. c.: *H. speciosum* Fr., Hier. Europ. exs. 40.

Caulis ca. 30 (cult. ad 60) cm altus crassiusculus striatus strictus, inferne violaceus, aphyllopodus. Folia caulina 15—20 (—25) sensim decrescentia, ima florendi tempore + emarcida, inferiora lanceolata basin versus longe attenuata fere subpetiolata, remote denticulata acuta submucronata in margine subrevoluta, glaucescentia (in planta culta breviter dentata), superiora sublatiora basi brevius angustata, in bracteas decrescentia. Inflorescentia laxa paniculata indeterminata oligocephala. Acladium 1,5—7 cm longum, rami 0—3 (cult. ad 6) remoti graciles, plerumque monocephali. Involucrum 13—15 mm longum ventricosoglobosum, squamis sublatiusculus linearibus acutis vel exterioribus acutiusculis, ± obscuris anguste dilutius marginatis. Bracteae 3—4, inferiores (in planta culta) saepe subfoliolaceae. Pili involucri subnumerosi vel subsparsi ± diluti, 3 mm, in caulomatibus superne sparsi, deorsum numerosiores 3—8 mm longi, interdum ubique sparsi vel subnulli, in foliorum parte aversa margineque dispersi vel modice numerosi 3—4 (—6) mm longi. Glandulae nullae, rarissime in involucri solitariae. Flocci in involucri basin versus sparsi, in squamarum marginibus saepe numerosiores, pedunculi canofloccosi, rami subfloccosi, caulis fere usque ad basin deminute floccosus, folia supra interdum sparsim floccosa, in margine nervoque dorsali vel in tota parte aversa (in superioribus) subfloccosa. Flores citrini, ligulis glabris, stylis luteis vel obscuris. Achaenia atrobrunnea, 3,6—4 mm longa. — Aug.

Hungaria: Tatra: Roter Lehm (Wołoszczak). Carpathes (Rochel). — Haud raro in hortis botanicis cultum.

Exsiccata: Hieracia Naegelianae 368, 368* (cult.).

Tab. 276. *H. speciosum* Hornem. (planta spontanea Wołoszczakiana!). 1. 2. Squamae. 3. Pedunculus sub involucri. 4. Ligula.

160. Hieracium crocatum Fries, Symb. 1848 p. 183; Epier. (1862) p. 124; *H. conicum* A.-T., in Decaisne, Cat. gr. Mus. Paris. (1877), Hier. Alp. fr. p. 116; *H. boreale* × *umbellatum* forma A.-T., Add. à Mon. p. 17: **umbellatum > prenanthoides** Zahn, Hier. d. Schw. p. 524 (1905).

Caulis 50—100 cm altus rigidus erectus strictus, laevis vel leviter breviterque setosohirsutus, aphyllopodus, inferne saepe rubro-purpureus. Folia caulina ad 30 subappropinquata sensim decrescentia, lanceolata vel oblongo-lanceolata sessilia, inferiores basin versus angustata fere subpetiolata florendi tempore plerumque emarcida, reliqua basi lata sessilia et praecipue superiora subsemiamplexicaulia, omnia rigida vel interdum tenuia membranacea, dilute vel obscure viridia, in margine saepe subrevoluto subintegerrima vel denticulata vel remote serrato-dentata, subtus pallidiora triplicinervia vel vix reticulata, in margine subtusque breviter rigideque subpilosa v. glabrescentia. Inflorescentia paniculata determinata vel + indeterminata usque ad $\frac{1}{2}$ totius caulis descendens oligo-vel (cult.) polycephala, ramis paucis vel ad 12, superioribus haud raro confertis, reliquis remotis arcuato- vel oblique erectis longis 1—3 pliciter ramulosis caulem parum superantibus. Acladium 10—15 (—25) mm longum. Involucrum 10—12 mm longum ovatum denique basi truncatum vel depressum. Squamae subangustae vel sublatae, obtusae v. obtusiusculae, atrovirides dilute viridi-marginatae, exteriores saepe sublaxae in capitulis iunioribus patentes. Bracteae 3—5 saepe sub

involucro confertae subulatae. Pili in involucro pedunculisque nulli. Glandulae in involucro modice numerosae saepe sublongae, in pedunculis nullae vel sparsae parvae. Flocci involucri nulli v. sparsi, basi et in pedunculis + densi: deorsum deminuti, in foliorum margine et in parte aversa subnumerosi vel sparsi. Flores saturate lutei, stylis e luteo crocatis vel denique obscuris, apice glabri. *Achaenia* castanea. — Aug.

Hab. Anglia bor., Scandinavia, Rossia arctica, Ural, Sibiria, Kamschatka, Caucasus, Carpathes, Bosnia, Alpes Helvetiae et Galliae, Cantal, Pyrenaei.

Subspecies **conicum** A.-T. Add. à Mon. 1877 p. 17. Folia dilute vel saturate viridia subglaucescentia subtus distincte reticulato-venosa. Involucrum denique depressum ventricosoglobosum, pariter ac pedunculi disperse glandulosum, subeffloccosum, subatrum. Pedunculi cani; flocci deorsum cito deminuti. Inflorescentia apice vix nunquam umbellata. Stylus obscurus.

Exsiccata: Magnier, Fl. sel. 1479.

Habitat in Delphinatu: Col du Lautaret (A.-T.); Pyrenaei; Gallia: Pierre-sur-Haute dans la Loire (A.-T.); Tirolia: Virgental, Gsiestal (Ausserdorfer).

β) **submonticola** Zahn, habitu *H. monticolae* Jord., at differt involucris sparsim glandulosis. — Alsatia: Hoheneck (Zahn).

Tab. 277. *H. crocatum* F. ssp. *conicum* A.-T. (in iugo Lautaret, 2200 cm, leg. A. Faure).

Sectio XVII. **Sabauda** [Fries, Epicr. 1862 p. 132 p.p.; A.-T., Hier. Alp. fr. p. 120 1888); Zahn, in Koch Syn. (1901 p. 1913; Hier. d. Schw. (1905) p. 16; Stirps *H. sabaudi* Fr., Symb. 1848 p. 188 p.p., *Vulgata* Griseb., Comm. (1852) p. 36 p.p.; *Accipitrina Sabauda* A.-T., Essai classific. 1881 p. 14]. Inflorescentia paniculata, raro subracemosa v. apice subumbellata. Squamae ad pressae, apice nunquam reflexae, regulariter imbricatae, omnes obtusae, saepe obscurae, plerumque parcissime glandulosae vel sparsim glandulosae et parcepilosae, glandulis saepe minutissimis. Folia numerosa plerumque aequaliter distributa, imahaud raro in basin angustata, reliqua saepe basi lata sessilia vel interdum leviter amplexicaulia, ovato-lanceolata v. lanceolata, subtus triplicinervia, sed occurrunt etiam formae foliis basin versus angustatis praeditae. *Achaenia* obscura. Alveoli in margine dentati vel fibrillosi. — A medio Aug. ad finem Oct.

161. Hieracium sabaudum L., Spec. pl. ed. 1 (1753) p. 804; ed. 2 (1763) p. 1131; Gaud., Fl. Helv. V p. 109; Monn., Essai p. 38; Tausch, in Flora 1828 Erg.-Bl. I p. 72; Froel., in DC. Prod. VII p. 226; Koch, Syn. ed. 2 p. 529; Fries, Symb. p. 189; Epicr. p. 129; A.-T., Monogr. p. 47; Zahn, in Koch Syn. p. 1915; Hier. d. Schw. p. 525; nec All., Fl. Ped. tab. 27, fig. 2. — Huc pertinent *H. boreale* Fr., Symb. p. 190 p. p.; Epicr. p. 130 p.p. (nec Nov. fl. Suec. 1819 p. 261 = *H. Friesii* Hartm. = *H. rigidum* Hartm.); Wimm. Grab., Fl. Siles. III p. 195; Koch Syn. ed. 2 p. 529; Hartm., Fl. Scand. ed. 4 p. 257; Gren. Godr., Fl. Fr. II p. 385; Griseb., Comm. p. 54; Reichb., Comp. tab. 180; A.-T., Hier. Alp. fr. p. 122; *H. silvestre* Tausch, in Flora 1828 Erg.-Bl. I p. 70; Froel., in DC. Prod. VII p. 225; *H. commutatum* Becker (1828) apud Lindeberg, in Blytt, Norges Fl. II p. 677; *H. nemorosum* Dierb., Fl. Heidelberg, II p. 252; *H. autumnale* Griseb., Comm. p. 53; Reichb., Comp. tab. 179; *H. rubricaulis* Dumort., Fl. Belg. p. 42; *H. crassicaule* Tausch in sched. et apud Steudel, Nomencl. ed. 2 I p. 762.

Per omnem *Europam*, sed in *Britannia*, in *Scandinavia* et in *Rossia boreali* aut omnino deest, aut rarissimum et saepe tantum quasi spontaneum.

E multis huius speciei subspeciebus has configuramus:

Subspecies **Roemerianum** Zahn, Sched. ad Hieracioth. Europ. Cent. I no. 96 (1906). Caulis 50—100 cm altus crassiusculus vel crassus strictus intense striatus, superne dense floccosus et molliter albo-subpilosus (1—2,5 mm), inferne subfloccosus et densius longiusque albopilosus subcrinitus (3—5 mm). Folia caulina 20—30 (v. compluria) sensim decrescentia sessilia, inferiora emarcida vel ovato-lanceolata acuminata basi breviter subattenuata, reliqua e basi late cordato-ovata vel rotundata late ovato-lanceolata duplo longiora quam lata, omnia rigidiuscula vel papyracea, sordide viridia, supra obscuriora subtus pallidiora, utrimque subpilosa (1—3 mm) vel media superioraque supra glabrescentia, in margine nervoque dorsali praecipue basin versus densius longiusque albopilosa (2—4 mm), in basi ipsa subtus subcrinita, in margine et subtus \pm distincte subfloccosa, in margine hinc inde glandulis minutissimis solitariis praedita, glanduloso-denticulata vel basin versus breviter dentata. Inflorescentia paniculata; aeladium 10—25 mm longum; rami primarij 5—15 usque ad medium caulem descendentes oblique erecti, inferiores elongati foliosi; ordines axium 3—4; capitula (5—) 8—40, saepissime ramalia inferiora haud evoluta. Involucrum 10—12 mm longum ovatum crassiusculum; squamae latiusculae lanceolatae obtusae nigro-virides parcefloccosae disperse diluteque pilosae (1—1,5 mm), disperse glandulosae; pedunculi consimiles, cani, glandulae tenellae. Bractae 3—6 squamiformes. Ligulae saturate luteae apice glabrae; styli obscuri, achaenia atro-brunnea.

Transsilvania: In silvis ad „Honterusplatz“ p. Coronam-Kronstadt (J. Roemer).

Exsiccata: Hieracioth. Europ. no. 96.

Tab. 278. *H. sabaudum* L. ssp. *Roemerianum* Zahn (loco classico leg. J. Roemer).

1. Squama. 2. Pedunculus sub involucrio.

Subspecies **sedunense** Greml., Exk.-Fl. d. Schweiz 1896 p. 281; Zahn, Koch Syn. p. 1917; *H. propinquum* Sudre, Bull. Assoc. pyrén. 1899 no. 249; *H. boreale* var. *hirsutum* A.-T. in sched.; *H. boreale* var. *pubescens* A.-T., Hier. Alp. fr. p. 123 pp. Caulis ad 100 cm altus gracilis, infra medium dense rigideque pilosus subvillosus (ad 4 mm), superne parum pilosus. Folia caulina ad 50 \pm tenuia, inferiora lanceolata utrimque longe attenuata, media late lanceolata basi subattenuata sessilia, omnia leviter dentata, utrimque et praecipue in margine nervoque dorsali pilis albis 1—2 mm longis oblecta. Involucrum ovatum 9—10 mm longum, squamis obscuris pallide marginatis pariter ac pedunculi tenues et cani subpilosum parceque glandulosum.

Variat: 1) *propinquum* Sudre l. c., Zahn Hier. d. Schw. p. 528; involucris pedunculisque subdense rigideque pilosis, stylo obscuro. — Lyon (Jordan).

2) *sedunense* Greml. l. c.; *H. valesiacum* Wolf, in Doerfler, Herb. norm. no. 3115. Involucris pedunculisque sparsim v. submodice tantum pilosis; stylo luteo. — Vallesia: Evionnaz (Jaccard), Ecône 500—550 m (Chenevard), in valle fl. Sionne, Savièse (Favrat). — Pt.-Salève (Chenevard).

Exsiccata: Soc. dauph. 2151; Doerfler, Herb. norm. 3115; Zahn, Hieracioth. Europ. 392.

Tab. 279. *H. sabaudum* L. ssp. *sedunense* Greml. (pr. Sion Vallesiae leg. Wolf).

1. Squama. 2. Pedunculus sub involucrio.

Subspecies **vagum** Jord., Cat. Grenoble (1849) p. 21; Boreau, Fl. centr. Fr. l. c. p. 388;

H. boreale var. *vagum* Gren. in Gren. Godr., Fl. Fr. II p. 385; *H. sabaudum* γ) *latifolium* Gaud., Fl. Helv. V p. 108 pp.; *H. anatolicum* Freyn et Sint., It. orient. (1897) exsicc. no. 5004^c. Caulis superne glaber. Folia caulina numerosa, plerumque in caulis medio magis appropinquata, parum pilosa, supra glabra lucida, saepe rigida vel suberassiuscula, irregulariter dentata vel grosse dentata. Pedunculi epilosi eglandulosi dense floccosi. Involucrum crasse ovatum plerumque atroviride, per exsiccationem saepius aterrimum, primo aspectu glaberrimum, sub lente interdum glandulis minutissimis sparsis obsitum vel nudum, rarius pilis glandulis valde solitariis praeditum vel sparsim floccosum. Stylus obscurus.

Variat: α) **genuinum** Sudre, Hier. centr. Fr. p. 28, foliis caulinis mediis oblongo-lanceolatis appropinquantis sublonge acuminatis breviter dentatis. — Per Europam calidiorem usque ad Rossiam occidentalem et Asiam Minorem.

β) **rigidicaule** Jord. apud Sudre l. c.; foliis ellipticis minus acuminatis, caulinis mediis confertis grossius dentatis; involucris virentibus; stylis initio sordide luteis. — Cum praecedenti.

γ) **subrectum** Jord., apud Boreau l. c. p. 387; foliis ovatis vel ovato-lanceolatis in caule aequaliter distributis coriaceis basi lata v. rotundata v. truncata sessilibus, plerumque grosse dentatis; involucri obscure viridi; stylis obscuris. — In pago Vaudensi, ad Rhenum medium et aliis locis cum var. α .

Exsiccata: Hieracioth. Europaea 197, 394, 496, 598, 599 (*rigidicaule*).

Tab. 280. *H. sabaudum* L. ssp. *vagum* Jord. α) **genuinum** Sudre (pr. Lyon Galliae, loc. class., leg. Gaudoger).

Subspecies **quercetorum** Jord.; apud Boreau, Fl. centr. Fr. p. 386; Sudre l. c. p. 28; Zahn, Hier. Schw. 532; nec Vukot., Rad. Jug. Akad. Zagrab. (1881) p. 169; *H. laurinum* A.-T., Hier. Alp. fr. 117 pp.; *H. Mauriannense* Didier, Bull. Soc. Dauph. VI (1879). Caulis infra medium subhirsutus, superne glaber. Folia in parte superiore saturate viridia, subtus elevato-costata, media ovata v. ovato-lanceolata, semper breviter, basi rotundata v. saepe subcordata, breviter paucidentata. Pedunculi epilosi. Involucrum disperse glandulosum epilosum. Styli lutei. Reliqua ut in *H. vago* Jord.

Exsiccata: Zahn, Hieracioth. Europ. 498; Gandoger, Fl. Gall. 915!; Soc. Dauph. 2156!

Gallia centralis; Delphinatus; Helvetia australis: Lugano, Castagnello, Mte Bré (Chenevard, Mari); Bavaria: Gutsberg pr. Zirndorf Franconiae mediae (Schwarz); Hungaria: Budapest (Kocsis), Hunyad (Jávorka), Kormossó (Muret), Borsod (Budai), Vas (Márton), Dömös (Filarszky); Croatia: Karlovac (Rossi), Mali Halan (Lengyel).

Tab. 281. *H. sabaudum* L. ssp. *quercetorum* Jord. (ad Zirndorf leg. Schwarz). 1. Squama. 2. Pedunculus. 3. Flos.

Species intermediae:

162. Hieracium pseudobupleuroides N. P. II 74 = **sabaudum—bupleuroides** N. P. l. c.

Aphyllopodium. Caulis rigidus apice ramosus. Folia numerosa \pm lanceolata, denticulata v. argute serrato-dentata, rigida, \pm glauca, in margine subtusque saepe \pm pilosa. Involucrum ut in *H. bupleuroidi*, 12—15 mm longum, denique depressum ventricosum, squamis \pm latis acutis v. obtusis sparsim pilosis parcefloccosis eglandulosis. Stylus plerumque obscurus. 60—130 cm altum. — Flor. Aug.

Subspecies **vindobonense** Wiesb., F. Sch., Herb. norm. n. s. 1409; ssp. *aquacetiense* N. P. II 76. — *H. bupleuroidi* valde affinis, at differt capitulis 14—15 mm longis, squamis latis obtusis viridibus dilutius marginatis epilosis eglandulosis parce, in margine subfloccosis.

Austria inferior: Baden prope Vindobonam (Wiesbaur).

Tab. 282. *H. pseudobupleuroides* N. P. ssp. *vindobonense* Wiesb. (e loco classico!, leg. Wiesbaur!). 1. Squama exterior. 2. Squama interior. 3. Pedunculus.

163. Hieracium deltophyllum A.-T., Hier. Alp. fr (1886) p. 120 = **sabaudum—vulgatum** Zahn, Koch Syn. (1901) p. 1919.

Caulis ad 80 cm altus rigidus strictus aphyllopodus, rarius hypophyllopodus, pariter ac folia haud raro ± rubro-coloratus. Folia caulina ad 12 remota vel caulis basin versus vel in caulis medio dense appropinquata (more *H. racemosi*), inferiora sensim, superiora cito decrescentia, omnia petiolata v. basi angustata, late rhomboideo-lanceolata v. lanceolata v. breviter ovata, denticulata v. grosse dentata, saturate v. sordide viridia, ± rigida v. mollia. Inflorescentia oligo- v. pleiocephala suprafastigiata; acladio 10—25 mm longo, ramis c. 5 ± remotis saepe usque ad caulis medium descendentibus, 1—2-pliciter ramulosis, brevibus v. elongatis erectis. Involucrum subcylindrico-ovatum v. ovatum, squamis angustis obscure viridibus v. canescentibus obtusiusculis v. externis obtusis. Pili in involucrio pedunculisque dispersi, in caule modice numerosi, 2—3,5 mm, folia in margine dense, subtus et in petiolis subpilosa, supra glabra. Glandulae in involucrio pedunculisque sparsae v. subnumerosae. Flocci in involucrio modice numerosi v. ± sparsi, in foliorum parte aversa subnumerosi vel in nervo dorsali tantum obvii; pedunculi ± cani, caulis deorsum deminute floccosus. Achaenia obscure brunnea. — Flor. Aug.—Sept.

Subspecies **deltophyllum** A.-T. l. c. Styli obscuris, involucris pariter ac pedunculi ± epilosis, subdense floccosis.

a. *verum* Zahn, H. d. Schweiz p. 535; foliis inferioribus submagnis, reliquis sensim decrescentibus, in caule aequaliter dispositis.

b. *joratense* (Rapin in sched.) Gremli, Exk.-Fl. Schw. ed. 3 (1878); *H. croaticum* f. *virgultorum* Favrat, in Gremli, Neue Beitr. I p. 49; *H. Massoniae* Favrat, Bull. Soc. Vaud. et Ber. Schw. bot. Ges. (1892) II 90; *H. murorum* II *silvaticum* δ. *integrifolium* Gaud., Fl. Helv. V 104 pp. et herb.! *H. flagelliferum* Ravaut, Bull. Soc. Dauph. IV, exs. 1285. — Foliis in caulis basi v. parum altius confertis, superioribus abrupte decrescentibus.

In Alpibus Lemanensibus: Vallée d'Aulph (Briquet), Les Voirons (Chenevard); Helvetia: Genf, Aubonne, Lausanne, Estévenens (Muret, Favrat, Jacquet); Barrage in pago Friburgensis (Wilczek); Lauterbrunnen (de Tavel).

Tab. 283. *H. deltophyllum* A.-T. ssp. *deltophyllum* A.-T. a. *verum* Zahn (ad margines silvarum pr. Chalet a Gobet supra Lausanne legi; in Hieracioth. Europ. cent. VII publicabitur). 1. Squama. 2. Pedunculus sub involucrio.

164. Hieracium lycopifolium Froel. in DC., Prod. VII (1838) p. 224; Koch, Syn. ed. 2 p. 527; Fries, Symb. 163, Epicr. 116; Rchb., Comp. t. 151; Gr. Godr., Fl. Fr. II 382; Zahn (emend.) H. Schweiz (1906) p. 536 (incl. *H. valesianum* Fr., Epicr. 122. et *H. bifrons* A.-T., H. Alp. fr. 97) = **sabaudum—prenanthoides** Zahn, Koch Syn. (1901) p. 1921, H. d. Schw. l. c.

Caulis ad 100 cm altus, gracilis v. crassus, erectus, substrictus v. subflexuosus, submollis v. rigidus, striatus, aphyllopodus, pariter ac folia rubro- v. violaceo-coloratus. Folia caulina 15—30 v. compluria, saepe ± magna, aequaliter disposita v. in caulis inferiore parte magis appropinquata v. dense conferta, sensim decrescentia, supra medium saepe cito deminuta, ima basi subpetiolata sed florendi tempore plerumque emarcida, inferiora basi subangustata sessilia et sub- v. semiamplexicaulia, oblonga v. oblongo-lanceolata, media consimilia v. pariter ac superiora basi ± lata v. subcordata sessilia semiamplexicaulia, lanceolata, oblongo-lanceolata v. elliptica, omnia acuminata ± acuta, summa e basi ovata lanceolata et ± longe acuminata, denticulata v. dentata, basin versus saepe serrato-dentata, raro subintegerrima, obscure v. dilute viridia, subtus pallidiora et indistincte reticulato-venosa, mollia v. ± coriacea. Inflorescentia paniculata ± determinata v. saepius indeterminata, squaroso-ramosa, ramis (2—) 7 v. numerosis, inferioribus longis oblique patentibus virgatis foliosis 2 (—3)-pliciter ramulosis. Acladium 20—25 (—35) mm longum; capitula 15 vel numerosa, rarius pauca tantum evoluta, interdum pro maxima parte aborta. Involucrum 9—10 mm longum crasse v. globoso-ovatum, denique truncatum. Squamae sublatiusculae obscurae v. subvirides, dilute v. pallide viridi-marginatae, obtusae, saepe rubro-coloratae. Bractee 3—5. Pili in involucri pedunculisque vix solitarii, in ramis dispersi v. subdensi, diluti, in caule deorsum numerosiores, infra medium densi v. densissimi, 1—3 mm, in foliis utrimque subnumerosi v. subdensi breves, in margine nervoque dorsali densiores longioresque, interdum in parte superiore vix dispersi. Glandulae in involucri pedunculisque subdensae v. dispersae, interdum densissimae, plerumque parvae, in caulomatibus deorsum deminutae, usque ad medium descendentes, in foliorum marginibus solitariae minutissimae. Flocci involucri dispersi v. subdensi, pedunculi cani, caulis saepe fere usque ad basin floccosus, folia superiora in parte aversa subfloccosa, reliqua parce- v. in nervo dorsali tantum subfloccosa. Flores plerumque saturate lutei, ligulis apice vix v. breviter ciliatis, stylis subluteis v. plerumque ± obscuris. Achaenia dilute v. rubro-brunnea. Alveoli margine fibrilloso- (v. interdum subglanduloso-) dentati. — Flor. Aug.—Sept.

Delphinatus, Pedemontium, Helvetia, Jurassus, Vogesi, Silva Nigra.

In Hier. Schweiz 1906 p. 537 3 greges distincti:

a. *Pseudovalesiacum* Zahn. — *H. sabaudum* proximum.

b. *Lycopifolium* Zahn. — Inter *H. sabaudum* et *H. prenanthoides* intermedium.

c. *Bifrons* Zahn. — *H. prenanthoidi* magis affine.

Subspecies **trichoprenanthes** Zahn, H. d. Schweiz 538; *H. bifrons* β *trichoprenanthes* Zahn, Koch Syn. (1901) p. 1921 (e grege *Lycopifolium* Z.). Caules foliaque dense pilosa, caule infra medium dense villosa, 2—4 mm. Folia margine nervoque dorsali densissime pilosa, 1—2 mm. Involucrum subdense floccosum, pariter ac pedunculi cani subglandulosum et subpilosum. Stylus obscurus.

Pedemontium: Vieyes, Valsaravanche (Wilczek), Mt. Cénis pr. Aosta (Besse). Helvetia austro-occidentalis: Marl Sapin supra Aigle (Jaccard), Orsieres (Lagger), Mt. Chemin (Besse), Lavey (Favrat).

Tab. 285. *H. lycopifolium* Froel. ssp. *trichoprenanthes* Zahn (Mt. Chemin, leg. Besse). 1. Squama. 2. Pedunculus.

Subspecies **bifrons** A.-T., Monogr. (1873) p. 46; H. Alp. fr. 97; Zahn, H. d. Schw. p. 539; *H. valesiacum* A.-T., Soc. Dauph. no. 2531. — Folia elliptico- v. oblongo-lanceolata,

inferiora mediaque submagna, sensim in basin semiamplexicaulem angustata, media basi subpanduriformia, superiora cito diminuta, basi rotundata v. subcordata amplexicaulia, omnia mollia, dilute viridia, saepe pariter ac caulis robustus + violaceo-vel vinoso-colorata, subtus ± distincte reticulato-venosa, ± denticulata. Involucrum 9—10 mm longum, squamis sublatiusculis subatris subimmarginatis, pariter ac rami + dense glandulosi. Inflorescentia saepe indeterminata, capitulis numerosissimis. Achaenia rubescentia v. obscure brunnea v. grisea.

Pedemontium: Courmayeur (Vaccari); Vallesia: Morcles, Martigny, Lourtier, Riddes Les Pontis, Vercorin, Lens, Stalden (Muret, Favrat, Wolf).

Tab. 284. *H. lycopifolium* Froel. ssp. *bifrons* A.-T. (pr. Riddes, leg. Besse). 1. 2. Squamae. 3. Pedunculus sub involucrio. 4. Dentes ligularum.

Alias subspecies in Hier. d. Schw. l. c. descripsi.

165. Hieracium Favratii Muret (1869 in sched.) apud Gremli, Exk.-Fl. Schw. ed. 2 (1874); *H. racemosum-prenanthoides* Zahn, in Koch Syn. 1901 p. 1927; = **deltophyllum-prenanthoides** Zahn in Schinz et Kell., Fl. Schw. ed. 2 II 346 (1905); H. d. Schw. p. 535.

Caulis 60—100 cm altus gracilis erectus, superne ± flexuosus et striatus, saepe rubro-coloratus, aphyllopus. Folia caulina ad 20, ima basi angustata sessilia, media basi + prenanthoidiformia semiamplexicaulia sessilia (superiora basi rotundata), elliptico-lanceolata sensim acuminata, acutiuscula v. acuta, leviter denticulata, dilute viridia, subtus ± glaucescenti- et pallide viridia, submollia v. subrigida, sensim decrescentia, aequaliter disposita. Inflorescentia laxa paniculata, usque ad caulis medium descendens, suprafastigiata, (4—) 10-v. polycephala. Acladium 25—30 (—40) mm longum, rami (3—) 5—9 longissimi remoti oblique patentes, apice 1—2-pliciter ramulosi. Involucrum c. 10 mm longum + cylindricum basi rotundatum, squamis sublatiusculis subangustatis obtusis pluriserialibus, externis obscure gramineo-viridibus + dilute marginatis, intimis dilutis. Bractee 3—4. Pili in involucrio dispersi, in pedunculis caulomatibusque usque ad caulis basin subdensi v. densi, 1—2 (—3) mm longi, in foliis utrimque subdensi, 0,5 mm, in margine nervoque dorsali + densi, 1—2 mm. Glandulae in involucriis caulomatibusque densae parvae, in caule usque ad inferiorem tertiam partem descendentes. Flocci in marginibus squamarum exteriorum modice numerosi, in caulomatibus densi, usque ad caulis medium diminuti, in foliis nulli. Flores saturate lutei, ligulis apice breviter ciliatis v. glabris, stylis obscuris. Achaenia dilute brunnea. — Flor. Aug., Sept.

Exsiccata: F. Sch., Herb. norm. 1819.

Helvetia: Chalet à Gobet et Chêne de Gland supra Lausanne (Muret).

Tab. 286. *H. Favratii* Muret (loco classico, leg. Favrat). 1. Squama. 2. Pedunculus sub involucrio.

166. Hieracium pseudocorymbosum Gremli, Neue Beitr. III (1883) p. 20; Zahn in Koch, Syn. 1901 p. 1922; *H. vallesiacum-umbellatum* Zahn l. c.; = **lycopifolium-umbellatum** Zahn, Hier. d. Schw. 540.

Caulis ad 120 cm altus rigidus gracilis v. crassiusculus, saepe rubescens, subglaber v. scaber v. breviter pilosus, aphyllopus. Folia caulina ad 30 vel compluria, subappropinquata sensim decrescentia, rigida, inferiora lanceolata v. oblongo-lanceolata, rarius oblonga, utrimque attenuata, sed basi sublata sessilia subamplexicaulia, omnia acuminata acutiuscula, denti-

culata v. dentibus nonnullis maioribus obsita, obscure viridia, subtus pallidiora et distincte costata vix reticulato-venosa, praecipue inferiora subtus disperse pilosa, media summaque in parte aversa \pm dense floccosa, summa etiam in parte superiore subfloccosa, in margine \pm revoluta scabra. Inflorescentia paniculata, apice saepe umbellata. Capitula numerosa. Acladium 10—25 mm longum, involucrum \pm ovatum, 9—10,5 mm longum, squamis angustis vel sublatiusculis, obtusis, obscuris, interioribus pallide marginatis, exterioribus (praecipue in capitulis iunioribus) distincte patentibus. Bractee complures, sub involucro saepe confertae et in squamas transeunt. Pili in involucris pedunculisque nulli v. solitarii; involucrum subglandulosum, disperse v. dense floccosum; pedunculi cani \pm sparsim glandulosi, caulis sub-, apice dense floccosus. Flores stylique aureolutei v. stylus obscurus; ligulae apice glabrae. Achaenia plerumque atrobrunnea. — Flor. Aug., Sept.

Vallesia, Alsatia superior.

Subspecies **pseudocorymbosum** Greml. l. c. (= *valesiacum-umbellatum* Zahn, H. Schw. 540). Caulis saepe rubescens, subglaber v. breviter subhirsutus. Folia lanceolata v. oblongo-lanceolata, inferiora subtus disperse rigideque pilosa, superiora floccosa, in margine revoluta scabra. Involucra et pedunculi pilis solitariis obsita, involucrum sparsim modiceve floccosum.

In valle fl. Rhodani supra lacum „Genfer See“: Roche, Eslex, Morcles, Salvan, Bovernier, Sembrancher, Saillon, Collonges, Saxon (Muret, Favrat, Delasoie, Besse).

Tab. 287. *H. pseudocorymbosum* Greml. ssp. *pseudocorymbosum* (Greml.) Zahn (pr. Collonges, leg. Besse). 1. Squama. 2. Pedunculus sub involucro.

Subspecies **aquileiense** Zahn, in Schinz et Kell., Fl. Schw. ed. 2 II 349; = *lycopifolium-brevifolioides* Zahn, H. Schw. 541. — Folia oblonga ter longiora quam lata, dilute viridia, rigida, supra glabra, in margine subtusque rigide pilosa, basi parum angustata v. pleraque rotundata sessilia subamplexicaulia, denticulata, raro dentata. Involucrum obscurum, floccis numerosis albide perfusum, disperse pilosum glandulosumque. Pedunculi consimiles, cani. Achaenia dilute brunnea. Stylus luteus.

Helvetia: Aigle (Jaccard), Le Mont-Morcles (Muret).

Exsiccata: Zahn, Hieracioth. Europ. no. 395.

Tab. 288. *H. pseudocorymbosum* Greml. ssp. *aquileiense* Zahn (pr. Aigle, leg. P. Dursch et A. Kneucker). 1. Squama. 2. Pedunculus sub involucro.

Subspecies **Petryanum** Zahn in Koch, Syn. (1901) p. 1923; Hier. d. Schw. (1905) p. 541 = *lycopifolium-umbellatum* Zahn l. c. — Caulis ad 10 dm altus crassiusculus subsulcato-striatus pilosus, inferne hirsutus. Folia caulina numerosissima subappropinquata sensim decrescentia v. supra medium subcito minora et magis remota; omnia oblongo- v. \pm lanceolata, inferiora in petiolum late alatum dentatum basi lata sessile attenuata, media basi cuneata sessilia, superiora basi rotundata v. fere subcordata sessilia vix v. parum amplexicaulia, omnia acuminata acuta, margine \pm revoluta, serrato-dentata, dentibus subnumerosis angustis \pm longis saepe autrorsum curvatis mucronatis brevibus immixtis, supra glabra v. disperse breviterque subsetoso-pilosa, effloccosa, summa tantum in parte aversa margineque vix disperse floccosa, omnia subtus margineque hirsuta, saturate viridia, passim rubescentia, subtus pallidiora triplicinervia, subrigidiuscula. Inflorescentia paniculata usque ad caulem medium descendens, acladio 15—25 mm longo, ramis (capitulisque) numerosis remotis, inferioribus abbreviatis oblique erectis, superioribus interdum umbellatis, omnibus 1—2-pli-

citer ramulosus. Involucrum 9—10 mm longum ovatum basi rotundatum, initio subcylindrico-ovatum; squamae subangustae acuminatae obtusae (exteriores angustiores) virides v. atro-virides, dilute viridi-marginatae subeffloccosae \pm dense breviterque glandulosae. Pedunculi subdense floccosi disperse pilosi modice breviterque glandulosi. Glandulae (et flocci) deorsum cito deminutae usque ad caulis inferiorem tertiam partem descendentes. Flores saturate lutei, dentibus glabris, stylo denique obscuro; achaenia atrobrunnea; alveoli margine fibrilloso-dentati. —

Helvetia: Les Isles pr. Aigle (Jaccard); Alsatia superior: Ad arcem Plixburg retro Colmar (Zahn).

Tab. 289. *H. pseudocorymbosum* Greml. ssp. *Petryanum* Zahn (loco class. Alsatie legi). 1. Squama. 2. Pedunculus sub involucro.

167. Hieracium virescens Sonder in Koch, Syn. ed. 2 II (1844) p. 1027; in Fl. v. Hamburg p. 424; Zahn in Koch, Syn. (1901) p. 1923; Hier. d. Schw. (1905) p. 541; *H. boreale* v. *virescens* Griseb., Comm. p. 55; *H. virescens* Fr., Symb. p. 192; Epicr. p. 116 sub *H. tridentato*; Rchb., Comp. p. 102, tab. 182 fig. 2; Uechtr. in Östr. bot. Zeitschr. (1871) p. 121; — **sabaudum—laevigatum** Zahn in Koch, Syn. l. c. — Habitu *H. rigidi* Hartm. Caulis ad 8 dm altus glabratus v. (inferne sublonge) pilosus compressibilis, aphyllopodus. Folia caulina numerosa sensim decrescentia appropinquata \pm lanceolata acuminata acuta, supra glabra lucida, subtus disperse pilosa et \pm floccosa, margine pilorum apice destructorum basi trunciformi hirsuta, omnia in basin \pm cuneatam attenuata, ima tantum attenuato-subpetiolata, media subsessilia, superiora ovato-lanceolata sessilia, omnia denticulata v. grosse serrato-dentata, utrumque 3—6 dentibus acutis praedita, dilute viridia, tenuia v. \pm rigida. Inflorescentia \pm corymbosa v. paniculata, saepe reducta racemosa, \pm determinata, acladio ad 20 (—35) mm longo, ramis paucis v. compluribus, simpliciter ramulosus; capitula pauca v. sub-numerosa, interdum basi leviter turbinata. Squamae subangustae viridescens v. subatro-virides margine pallidiores, exteriores parum laxae in bracteolas sub involucro confertas transeuntes, interiores angustiores obtusiusculae, externae latiores obtusae, subepilosae v. pilis solitariis obsitae, sparsim microglandulosae floccosaeque. Involucrum viride, per exsiccationem haud nigrescens, magnitudine ut in *H. rigido*. Pedunculi dense floccosi, pilis glandulisque solitariis obsiti. Flores auro-lutei, stylo luteo v. denique obscuriore. Achaenia brunneo-atra. — VIII—IX.

Germania borealis: Teufelsbrück, Nienstädten (Sonder!), Kiel, Ratzeburg; Mecklenburg. Tirolia; Ritten pr. Bozen (Hausmann); Helvetia: Sauvabelin, Chalet à Gobet pr. Lausanne (Muret).

Tab. 290. *H. virescens* Sonder (ad Chalet à Gobet legi). 1. Apex ligularum. 2. Squama. 3. Pedunculus sub involucro.

168. Hieracium dolosum Burnat et Greml. Cat. Hier. Alp. marit. (1883) p. 82; Zahn in Schinz et Kell., Fl. Schw. ed. 2 II p. 349; Hier. d. Schw. (1905) 542; *H. curvidens* Zahn, Koch Syn. (1901) p. 1924; = **sabaudum—umbellatum** Zahn l. c. — Caulis ad 12 dm altus gracilis v. crassiusculus intense striatus, superne glabratus, inferne saepe \pm pilosus et \pm coloratus, aphyllopodus. Folia caulina plerumque numerosissima sensim decrescentia sessilia, inferiora angustata subpetiolata (ima plerumque emarcida) oblongo-lanceolata, sequentia

basi subangustata v. basi aequilata sessilia apicem versus attenuata lanceolata acuta saepe contorta, superiora ovato-acuminata subbrevia, omnia \pm rigida, margine revoluta, dilute v. sordide viridia, denticulata v. dentata, inferiora subtus subpilosa, superiora subtus, summa etiam in parte superiore subfloccosa. Inflorescentia apice umbellata, deorsum paniculata, pleio- v. polycephala; acladio 10—25 mm longo, involucris 9—10 (—11) mm longis ovatis, squamis latiusculis obtusis obscuris v. viridiatis, externis haud v. parum squarroso-patentibus, apice haud recurvatis. Bracteolae paucae parvae. Involucrum plerumque epilosum vix v. parcissime floccosum, glandulis minutissimis sparsis et nonnullis submaioribus obsitum. Pedunculi apice parum incrassati, cani, apice tantum microglandulosi v. eglandulosi, epilosi. Flores plerumque saturate lutei, dentibus glabris, stylis subluteis v. obscuris. Achaenia brunnea. — VIII—IX.

Helvetia: Ecône, Roche (Muret, Favrat); Liguria (Bicknell); Alpes maritimes (Burnat); Italia media; Germania australis; Saxonia (Hofmann); Vorarlbergia (Murr); Hungaria. Tab. 291. *H. dolosum* Burn. et Gremli (e Saxonia). 1. Squama. 2. Pedunculus.

Sectio XVIII. **Italica** [Fr., *Epier.* p. 107 pp.; Boiss., *Fl. orient.* III 872 pp.; Zahn in Koch, *Syn.* (1901) p. 1924; Stirps *H. italici* Fr., *Symb.* p. 123 pp.; Stirps *H. umbellati* Fr. l. c. p. 177 pp.; Sabauda Fr., *Epier.* p. 127 pp.; Vulgata Griseb., *Comm.* p. 36 pp.; Australia A.-T., *Hier. Alp. fr.* p. 112]. — Inflorescentia subracemosa v. paniculata; squamae adpressae \pm regulariter imbricatae, latae \pm obtusae, plerumque dilutae (virides). Folia numerosa, saepe caulis basin versus v. altius rosulatum conferta (caulis „pseudophyllopodus“, basin versus attenuata, inferiora saepe \pm petiolata. Achaenia diluta (grisea, straminea v. dilute brunnea); alveoli margine breviter dentati, dentibus saepe glanduloso-ciliatis. Stylus semper obscurus. — Flor. a medio Augusto.

169. Hieracium racemosum W. Kit., *Pl. rar. Hung.* II (1802—1812) p. 211, tab. 193; Tausch in *Flora* (1828), *Erg.-Bl.* I p. 71; Froel. in DC., *Prod.* VII p. 223; Fries, *Symb.* p. 187; *Epier.* p. 128, Reichb., *Comp. tab.* 178; Griseb., *Comm.* p. 53; Zahn in Koch, *Syn.* (1901) p. 1924. — Huc pertinent *H. barbatum* Tsch. in *Flora* (1828) *Erg.-Bl.* I 72; Fr., *Epier.* p. 129; nec Loiseleur (1806); *H. heterospermum* A.-T., *Suppl. à Mon.*; *H. tenuifolium* Host, *Fl. Austr.* II p. 411; *H. silvestre* v. *tenuifolium* Froel. l. c. 225 pp.; *H. croaticum* Schl. et Vuk., *Hier. Croat.* p. 18; Rechb., *Comp. tab.* 177; *H. anisophyllum* Boiss., *Fl. orient.* III p. 876; *H. sabaudum* Sadl., *Fl. Pest.* p. 363; *H. sabaudum* E. *racemosum* Neilr., *Krit. Zus. Hier.* p. 483; *H. stiriaceum* A. Kern. apud Oborny, *Fl. Mähr.* I p. 606; *H. provinciale* Jord., *Obs.* VII (1849) p. 41; *H. australe* Griseb., *Comm.* p. 45 pp., non Fr.; *H. chlorospermum* Froel. l. c. 222; Fries, *Symb.* p. 128; *H. boreale* v. *depauperatum* Fr., *Epier.* p. 131; *H. abruptifolium*, *corymbuliferum*, *oppositifolium* Vukot., *Hier. Croat.* p. 17, 18; *H. sessiliflorum* Fries., *Evk.* IV tab. 11; *H. dinaricum* Fr., *Epier.* p. 106.

Subspecies **leiopsis** Murr et Zahn in Koch, *Syn.* (1901) p. 1927; nec Dahlst.; *H. heterospermum* A.-T. in sched.; *H. sabaudum* Hausm. in sched. pp. — Caulis 4—8 dm altus gracilis erectus v. ascendens, basi pariter ac folia \pm purpurascens-violaceus. Folia caulina 10—20 appropinquata, inferiora mediaque submagna, reliqua supra caulis medium cito decrescentia magis remota parva, inferiora obovato-lanceolata \pm cito in petiolum late alatum \pm dentatum attenuata breviter acuminata acuta, denticulata v. argute serrato-dentata, dentibus

nonnullis maioribus brevibus immixtis minuta, media superioraque ovata, basi lata v. rotundata sessilia et leviter amplexicaulia, omnia subglaucescenti- et dilute viridia \pm rigida v. papyracea supra lucida. Inflorescentia racemoso-paniculata; capitula 5—15 v. numerosa; acladium 15—25 mm; rami primarii 5—8 v. complures subremota 1-cephala v. simpliciter ramulosa, capitulis passim pro parte abortis. Involucrum 10—12 mm longum, squamis sublatiusculis obtusis \pm obscure viridibus dilute viridi-marginatis. Pili in involucri caulomatibusque superne nulli, in caule pariter ac in foliorum margine nervoque dorsali dispersi v. modice numerosi (1—2 mm); folia utrimque epilosa v. inferiora subtus disperse pilosa. Glandulae ubique nullae, in squamarum dorso saepe solitariae minutissime, in foliorum inferiorum margine vix solitariae. Flocci in involucri sparsi, basin versus modice numerosi, pedunculi dense v. canofloccosi, caulis usque ad medium subfloccosus, folia superiora subtus v. in nervo dorsali margineque tantum vix sparsim floccosa. Stylus obscurus. Achaenia rubrobrunnea. Alveoli margine fibrilloso-dentati.

Tirolia: Innsbruck: Heiligenwasser, Paschberg, Wiltener Berg, Iselberg (Murr, v. Benz); Brixen bis Bozen: Klobenstein, Ritten (Hausmann); Trient: Mte Celva etc. (Murr).

Exsiccata: Fl. Austr.-Hung. 3395! Zahn, Hieracioth. Europ. 98.

Tab. 292. *H. racemosum* W. Kit. ssp. *leiopsis* M. et Z. (in m. Paschberg pr. Innsbruck leg. J. Murr). 1. Ligula. 2. Squama. 3. Pedunculus sub involucri. 4. Foliorum margo.

Subspecies **pojoritense** Wol., Mag. bot. lap. III (1904) p. 21. — Hypophyllopodum v. aphyllpodum. Folia caulina inferiora conferta lanceolata, in basin petioliformem latissime alatum basi ipsa late vaginantem sensim attenuata, breviter v. longius acuminata, rigidiuscula, apice saepe plicata, undulato-marginata \pm irregulariter dentata v. sinuato-dentata, dentibus interdum more *Crepidum* sp. \pm retrorsum versis, subglaucescenti- et saturate viridia, supra glabra v. sparsissime pilosa, marginem versus et margine ipso subpilosa, in parte aversa disperse, in nervo dorsali modice pilosa, pilis tenuibus, mollibus basi albido-bulbosis, praeterea margine nervoque dorsali glandulis vix conspicuis subnullis dilutis obsita; caulina reliqua abrupte decrescentia remota c. 5—8, summa subtus v. in nervo dorsali subfloccosa. Caulis 2—3 dm altus gracilis v. subtenuis, basi ipsa glaber et \pm violaceus, sursum breviter \pm pilosus subfloccosusque. Inflorescentia racemoso-paniculata, acladium 10—25 mm, rami primarii 4—10, inferiores remoti saepe e foliorum alis orti, ordines axium 3, capitula, (3—) 5—8 (—12 et compluria), rami saepe capitulis abortis praedita, abbreviata monocephala Caulomata dense floccosa v. cana. Pedunculi apice leviter incrassati, bracteolis c. 3 viridibus obsiti, disperse v. vix pilosi, pariter ac involucrum subepilosum basi dense floccosum dense breviterque glandulosi. Involucrum 10 mm longum cylindrico-ovatum crassiusculum basi denique truncatum, squamis latiusculis obscure viridibus dilute viridi marginatis, irregulariter imbricatis, exterioribus brevibus viridibus. Flores lutei, styli initio lutei denique brunnescentes.

Forsan formulae *racemosum* (v. *quercetorum*) > *sparsiflorum* respondens.

Hab.: Bukowina: in monte Adam pr. Pojorita, distr. Câmpulung (Woloszczak); Transsilvania: in rupibus „Vereskő“ pr. Tolgyes (Römer!).

Exsiccata: Flora Polon. exs. 966!

Tab. 293. *H. racemosum* W. Kit. ssp. *pojoritense* Wol. (e loco classico, leg. E. Woloszczak). 1. Ligula. 2. Squama. 3. Pedunculus sub involucri. 4. Pilus.

Species intermediae.

170. Hieracium Pospichalii Zahn, Hier. d. Schw. (1905) p. 545; *H. leiocephalum* N. P. II p. 66 p. p.; nec (Bartling) Griseb., Comm. p. 72; nec Rehb., Comp. tab. 210; *H. sabaudum-porrifolium* N. P. l. c. p. p.; *H. australe* Fr., Symb. p. 120 p. p.; Epicr. p. 101 p. p.; Rehb., Comp. tab. 169 fig. I; Posp., Fl. Küstenl. 804 pp.; *H. provinciale* Posp., l. c. p. 804; nec Jord., Obs. VII p. 41; nec Griseb., Comm. p. 45; *H. turbinatum* A.-T. in sched., non N. P. — VIII—IX.

Observatio: *H. leiocephalum* Bartl. apud Griseb. l. c. et Rehb. t. 210 est secundum descriptionem et iconem sine dubio = *H. leiosoma* N. P. II 62 = *umbellatum-porrifolium*. — *H. leiocephalum* N. P. l. c. (*H. racemosiforme* Zahn in Koch, Syn. 1901 p. 1927) est 1. *latifolium-porrifolium*, 2. *sabaudum-porrifolium*, 3. *racemosum-porrifolium*. Haec de causa formis formulae *racemosum-porrifolium* tantum respondentibus nomen *H. Pospichalii* attribuire velim.

Subspecies **Pospichalii** Zahn l. c.; ssp. *leiocephalum* N. P. II p. 67. — Caulis ad 8 dm, phyllopodus, hypophyllopodus v. aphylllopodus, epilosus effloccosus eglandulosus. Folia caulina numerosa, inferiora oblongo-lanceolata acuta ± denticulata basi attenuata alato-subpetiolata, sequentia attenuata sessilia sensim decrescentia oblique erecta, superiora ± oblonga, omnia rigida, margine subrevoluta, subglauescentia, subtus tantum et praesertim inferiora modice v. subdense pilosa (3—5 mm), superiora subtus saepe subfloccosa. Inflorescentia laxa paniculata 4—8 (—20)-cephala, acladio 4—9 cm longo, ramis plerumque paucis 1—2-pliciter ramulosis. Involucrum 10—12 mm longum crasse cylindricum, squamis sublatiis obtusis olivaceo-viridibus, apice saepe rubescentibus, parcepilosis v. subepilosis, parce glandulosis, parce- v. modice floccosis. Pedunculi apice densius floccosi, epilosus eglandulosus. Stylus obscurus. Achaenia atra.

Carinthia: Pontafel 600 m (Peter); Carnia: Wochein (Naegeli), Idria (Dolliner) Gorizia: in fl. Isonzo 60—600 m (Tommasini) Scogli, Sagrado, Gradiska, inter Sdraussina et Rubbia pr. Peteano (Evers); Italia borealis: in m. Resegone et ad sacellum San Martino supra Ranciano pr. Lecco (de Degen! Geilinger!); Tirolia: S. Agata etc. pr. Trient (Murr, Sardagna!).

Exsiccata: Hier. Naegeliana 335! Zahn, Hieraciot. Europ. 300a!

Tab. 294. *H. Pospichalii* Zahn ssp. *Pospichalii* Z. (pr. S. Agata leg. Sardagna).

171. Hieracium neoprenanthes A.-T., Bull. Soc. Dauph. XIII (1886) p. 560; Hier. Alp. fr. (1886) p. 94; = *racemosum* > *prenanthoides* Zahn. — Caulis 1—10 dm altus ± barbulato-hirsutus, basi saepe glaberrimus violaceus, apice laxa et indeterminato-paniculato-ramosus, acladio ad 25 mm longo, ramis paucis saepe reductis monocephalis v. numerosis valde remotis elongatis divaricatis bracteatis floccosis pilosis 1—2-pliciter ramulosis, pedunculis canis, pariter ac involucrum floccosum dense glandulosus, sed vulgo epilosus. Involucrum subcylindrico-ovatum 9—11 mm longum, squamis latiusculis obtusis atroviridibus margine albido-virentibus et saepe densius floccosis. Ligulae saepe subciliatae, styli brunnei. Achaenia grisea. Folia viridia subglauescentia, supra plerumque glabrescentia, subtus ± pilosa et distincte reticulato-venosa, medio denticulata v. dentata, valde difformia, inferiora ovato- v. oblongo-lanceolata saepe valde magna, in partem basalem latissime alatam + longam v. brevem

integerrimam basi semialexicaulem attenuata, reliqua cito v. abrupte decrescentia sursum magis magisque remota ovato-acuminata basi integerrima subamplexicaulia, summa saepe bracteiforma. — VIII-IX.

Gallia: Vallées de l'Oisans [Isère]: secundum fl. La Romanche, Le Vénéon, Les Gaudouirs, Livet etc. (Arvet-T.); Italia borealis: V. Pesio (Bicknell); Hercegovina: Ad montem Porim pr. castellum Raište ad Mostar (Vandas!).

Exsiccata: Soc. Dauph. 3807! 3807^{bia}! Arv.-T. et Gautier, Hieracioth. Gallica 459—463! 465!

Tab. 296. *H. neoprenanthes* A.-T. (e v. Pesio, leg. Bicknell). 1. Squama. 2. Pedunculus sub involucrio.

172. Hieracium polyadenium A.-T., Notes pl. Alp. (1883) suppl.; Burnat et Gremli, Hier. Alp. marit. (1883) p. 79; Zahn, Hier. d. Schw. (1905) p. 546; *H. pseuderiophorum* Burnat et Gremli l. c. p. 40 pp. = **pseuderiophorum** > **prenanthoides**; *racemosum-prenanthoides* Zahn, l. c. — *Aphyllipodium* v. *pseudophyllipodium*, olivaceo-virens. Caulis firmus sulcato-striatus 5—8 dm altus subdense diluteque hirsutus, superne subdense, inferne parce glandulosus, usque ad medium v. profundius ramosus. Folia caulina numerosa (ad 25) lanceolata v. oblongo-lanceolata mediocria, inferiora breviter alato-petiolata, interdum sublonga et + conferta rosuliformia, sequentia attenuato-sessilia vix amplexicaulia sensim v. cito decrescentia, superiora ovato-acuminata, utrimque breviter pilosa, margine et praesertim in nervo dorsali basin versus dense hirsuta (1—2,5 mm), sparsim v. superiora modice tenuiterque glandulosa, breviter mucronato-dentata, subtus paulo pallidiora. Inflorescentia (saepe + racemoso-) laxa paniculata, ramis paucis v. ad 12 v. compluribus divaricatis foliolaceis 1—3-placiter ramulosis, sed plerumque reductis oligocephalis subabbreviatis. Involucrium 8—9 mm longum subcylindrico-ovatum, squamis subangustis obtusis viridibus, exterioribus sublaevibus, omnibus modice floccosis dense glandulosis subepilosis. Pedunculi consimiles. Ligulae apice fere semper glabrae, stylo brunnescenti. Achaenia castanea v. subatra, 3,5—4 mm longa. Alveoli margine denticulati interdum sparsim ciliati.

Galli meridionalis: Basses-Alpes; Italia borealis: Pedemontium: Vallée vaudoise, Pinerolo (Rostan!), V. Pesio (Bicknell!); Helvetia australis: Ad silvarum vias pr. Lugano (Schleicher! Schroeter!).

Tab. 295. *H. polyadenium* A.-T. (in v. Perosa Pedemontii leg. Rostan). 1. Squama. 2. Pedunculus sub involucrio. 3. Foliorum margo.

173. Hieracium pseudoboreale A.-T., Hier. Alp. fr. (1886) p. 124 (sub *H. boreali*); Zahn, in Koch Syn. (1901) p. 1928; *H. heterospermum* × *boreale*? A.-T. l. c. = **racemosum-sabaudum** Zahn l. c. — Huc pertinent *H. platyphyllum* A.-T. l. c., *H. boreale* × *heterospermum*? A.-T. l. c.; *H. subbarbatum* G. Beck, Fl. N.-Östr. p. 1309; *H. boreale lactucaceum* Griseb., Comm. p. 54 pp. et verosimiliter etiam *H. lactucaceum* Schloss., Östr. bot. Wochenbl. IV p. 145 et 147.

Foliatio *H. sabaudi*, inflorescentia *H. racemosi*. Folia caulina numerosissima, inferiora plerumque utrimque longe attenuata fere subpetiolata saepe + conferta (v. media + appropinquata), media basi attenuata sessilia, summa basi rotundata v. interdum leviter cordata sessilia; omnia obscure viridia subtus pallidiora, in parte superiore disperse breviter pilosa

v. glabrescentia, subtus et praecipue in margine nervoque dorsali + dense albo-pilosa v. subcrinita, pilis basi albo-bulbosis. Caulis 3—8 dm altus, plerumque inter folia inferiora et media dense rigideque albido-pilosus, superne disperse pilosus (3—4 mm). Folia caulina superiora sursum saepe cito decrescentia magisque remota. Inflorescentia racemoso-paniculata, ramis oligocephalis. Involucrum 11—12 mm longum cylindrico-ovatum obscure viride v. obscurum, squamis ± late lanceolatis obtusis basi parcefloccosis, disperse v. sparsim albo-pilosis (pilis basi obscuris) et sparsim microglandulosis. Pedunculi canofloccosi albopilosi v. epilosi, eglandulosi v. micro-subglandulosi. Flores plerumque aureolutei; stylus valde obscurus; achaenia obscure v. atro-brunnea; alveoli margine fibrilloso-dentati. — Flor. Aug.—Oct.

Hab. in ditone *H. racemosi* in Gallia, Sabaudia, Italia, Istria, Illyria, Stiria, Tirolia, Moravia, Austria inferiore, Hungaria.

Subspecies **Maranzae** Murr et Z., in Koch Syn. (1901) p. 1929. — Inter ssp. *leiopsis* et ssp. *vagum* quasi intermedium. Folia coriacea saepe violacea, remote serrato-dentata supra glabra. Inflorescentia apice umbellato-racemosa deorsum paniculata. Squamae externae atrovirides, internae dorso obscurae dilute marginatae v. omnino dilutae. Achaenia subatra. Folia subtus (et praesertim in nervo dorsali) breviter molliterque pilosa, caulis inferne mollipilus.

Tirolia australis: In m. Maranza pr. Trient (Murr).

Tab. 297. *H. pseudoboreale* A.-T. ssp. *Maranzae* M. Z. (e loco classico, leg. J. Murr).
1. Squama. 2. Pedunculus sub involucro. 3. Apex ligularum.

174. Hieracium latifolium Spreng., Syst. (1818) III p. 645; Froel., in DC. Prodr. VII p. 226; Fr., Symb. 179; Epicr. 135; Zahn, in Koch Syn. (1901) p. 1913; *H. boreale* v. *latifolium* Koch, Syn. II p. 529; *H. umbellatum* ♂) *latifolium* Griseb., Comm. p. 49; Rechb., Comp. tab. 172 fig. 2; — **racemosum—umbellatum** Zahn. — Huc pertinet *H. brevifolium* Tsch., in Flora 1828 Erg.-Bl. p. 71; Fr., Epicr. p. 132; nec al.

Caulis 4—10 dm altus tenuis v. gracilis v. crassiusculus striatus v. sulcato-striatus, erectus v. subflexuosus, interdum decumbens, subglaber v. praesertim inferne subpilosus v. pilis basi bulbosis hirsutus. Folia caulina plerumque numerosissima (30—50) sensim in bracteas decrescentia, elliptica, interdum suborbicularia, v. ± oblonga, ad summum bis terve longa quam lata, parva v. submagna, ima contracta breviter subpetiolata v. attenuata sessilia, media summaque basi rotundata v. subcordata subamplexicaulia sessilia; omnia ± breviter acuminata obtusiuscula v. acutiuscula v. acuta, in margine saepe subrevoluto denticulata v. remote breviterque et late serrato-dentata, dentibus 2—4, obscure viridia saepe subglaucrescentia, supra lucida, subtus pallide virentia disperseque pilosa, in parte superiore (ima excepta) ± glabra, margine modice rigideque ciliata (2 mm) v. pilorum destructorum basi scabra, in nervo dorsali basin versus subdense pilosa. Inflorescentia ± indeterminata ± suprafastigiata, paniculato- et elongato-ramosa v. apice ± umbellata, haud raro ad 1/2 totius caulis descendens. Rami numerosi remoti foliosi v. superiores conferti, stricti erecti, 1—2-pliciter ramulosi, acladio 1—2,5 (—5) cm longo, capitulis 20 v. numerosissimis. Involucrum 12—13 mm longum ovatum v. globosum basi denique truncatum, initio saepe subturbinatum; squamis latiusculis v. latis lanceolatis obtusis v. obtusissimis, atro- v. olivaceo-viridibus saepe rubescentibus, subdilutius viridi-marginatis, per exsiccationem nigricantibus, extimis tantum laxis v. subpatulis v. reflexis. Bracteolae 4—6 parvae subfoliolaceae ovales v. ovato-lanceolatae

v. summae subulatae sub capitulo confertae et in squamas transeuntes. Pili in involucrio pedunculisque nulli v. solitarii, in caule deorsum sparsi v. subnumerosi v. inferne densi. Glandulae in involucrio pedunculisque nullae v. sparsae minutissimae. Flocci involucri sparsi v. dispersi, basi et in pedunculis modice numerosi v. subdensi, in caulomatibus deorsum deminuti sed + profunde descendentes, in foliis subnulli v. in nervo dorsali dispersi v. modice numerosi, interdum etiam in parte superiore ± dispersi, margine sparsi. Flores aurei, stylus luteus v. fuscescens. Achaenia brunneo-rubra v. obscuriora. Alveoli margine fibrillosi v. fibrilloso-dentati. — Flor. Aug.—Oct.

In regionibus calidioribus Europae australis in consortio *H. racemosi*, *italici* et affinium.

Subspecies **latifolium** Spr. l. c.; Pospichal, Fl. Küstenl. p. 818. — Folia oblongo-ovata v. elliptica (etiam inferiora et ramalia) obtusa v. breviter acuta, ima basi attenuata sessilia, dilute v. sublutescenti-viridia, denticulata v. subserrata, summa basi rotundata v. leviter cordata sessilia. Caulis fere usque ad basin floccosus, molliter pilosus, superne obsolete striatus viridis, basi saepe rubescens, plerumque haud dense foliatus, laxe paniculato- v. racemoso-ramosus, interdum apice umbellatus. Involucrum ovatum, squamis latissimis obtusissimis.

Praecipue in terris Illyricis: Goritia, Triest, Istria, Fiume; Croatia, Hungaria; Italia, Helvetia australis, Gallia meridionalis.

Tab. 298. *H. latifolium* Spr. ssp. *latifolium* Spr. (pr. Barcola ad Triest, leg. Evers).

Subspecies **brevifolium** Tausch l. c.; Pospichal l. c. p. 818 pp.; Fr., Epicr. p. 132; Sch.-Bip., Cich. no. 29! — Folia magis oblonga, subtus fortiter venosa, ima longius attenuata, numerosiora, gramineo- v. sordide viridia, dentata. Caulis inferne longe albopilosus sulcato-striatus, saepe crassus, plerumque magis ramosus. Inflorescentia apice umbellata, deorsum racemoso-paniculata, saepe usque ad caulis medium descendens. Involucrum semiglobosum, squamis angustioribus obtusiusculis glabris olivaceo-viridibus apice saepe obscurioribus, externis ± distincte reflexis. Stylus subluteus.

Cum subspecie praecedenti; praesertim circa Tergeste.

Tab. 299. *H. latifolium* Spr. ssp. *brevifolium* Tsch. (pr. Triest, leg. Evers).

Subspecies **Hellwegeri** M. et Z., in Koch Syn. (1901) p. 1928; *H. racemosum-latifolium* Zahn l. c. — Caulis ad 10 dm altus usque ad basin floccosus et ± pilosus. Folia ovato-lanceolata, inferiora attenuata breviter subpetiolata, sequentia basi cuneata, media summaque basi rotundata sessilia; omnia acuminata acuta, in margine subrevoluto ± dentata, utrimque plerumque 2—3 dentibus maioribus minoribus immixtis praedita, supra glabra v. disperse rigideque pilosa, subtus et in margine nervoque dorsali subpilosa, margine saepe scabra, superiora subtus vel etiam in parte superiore subfloccosa; omnia obscure viridia subtus canescenti-viridia, rigidiuscula. Inflorescentia paniculata ± indeterminata, usque infra caulis medium descendens, ramis numerosis erectis sublongis foliatis 1–2-pliciter ramulosis, capitulis 2—3 evolutis et 3—5 inferioribus abortis praeditis. Acladium 2,5 cm longum. Involucrum 12 mm, ovatum; squamis sublatiusculis obtusis, externis angustioribus laxis in c. 5 bracteolas confertas virides decrescentibus, omnibus obscure viridibus ± late diluteque viridi-marginatis, pilis brevibus solitariis, floccis mediocribus obsitis disperseque glandulosis, basi pariter ac pedunculi vix vel sparsim breviterque pilosis albido-canofloccosis. Flores ± aurei, stylis initio brunneo-luteis denique subatris. Achaenia ± brunnea. Alveoli breviter dentati.

Tirolia australis: Kuehbacher Wald (Murr), Klobenstein, Runkelstein, Gries pr. Bozen (Hausmann); Illyria; Bosnia.

Tab. 300. *H. latifolium* Spr. ssp. *Hellwegei* M. et Z. (Kuehbacher Wald, leg. J. Murr).
1. Squama. 2. Pedunculus sub involucro. 3. Apex ligularum.

175. *Hieracium melanothyrsus* Maly et Zahn, Mag. bot. lap. (1910) p. 306 = **latifolium—prenanthoides** Zahn l. c.

Subspecies **melanothyrsus** Mal. et Z. l. c. — Caulis crassus lignosus ad 1 m altus ubique sat dense pilosus. Folia caulina ad 30 v. compluria, inferiora longe angustata semiamplexicaulia, oblongo-lanceolata elongata (ad 15:3 cm longa) v. angustiora, media parum angustata semiamplexicaulia latiora brevioraque, summa e basi subcordato-ovata sensim acuminata, omnia subcoriacea sublutescenti-viridia, subtus pallidiora haud reticulato-venosa, margine sat dense breviterque pilosa et saepe subrevoluto-dentata, utrimque 1—3 dentibus maioribus munita, caulina media saepe grosse dentata, inferiora in parte superiore disperse breviterque pilosa, reliqua in margine nervoque dorsali sat dense, subtus disperse pilosa, omnia acuminata, inferiora acutiuscula, reliqua acuta, in summa tertia parte integerrima. Inflorescentia apice interdum umbellata, deorsum paniculata, usque ad caulis medium descendens, rami ad 16 saepe valde elongati oblique erecti stricti, foliolis subnumeris saepe subdentatis obsiti, apice ramulosi, ordines axium 4—5, capitula ad 60 v. compluria, acladium 2,5—4 cm longum. Involucrum crasse ovatum c. 10 mm longum subatrum subeffloccosum, sat dense minuteque glandulosum, disperse breviterque pilosum, glandulis nonnullis longioribus immixtis. Squamae sublatiusculae obtusiusculae viridi-atrae subimmarginatae, exteriores angustiores, in 3—5 bracteas parvas decrescentes. Pedunculi cani sparsim breviterque pilosi et glandulis dispersis minutissimis obsiti. Flores dilute lutei, stylis subatris, ligulis apice ± glabris. Achaenia rubrobrunnea. Alveoli longe dentati. — Flor. initio Oct.

Variat: *α) subhirsutum* Zahn l. c., caulomatibus modice v. subdense pilosis (1—2,5 mm), simul foliis omnibus lanceolatis v. late-, mediis elliptico-lanceolatis.

β) subbrevisfolium Z. l. c., foliis oblongis v. mediis ovato-lanceolatis, caule hirsuto, inflorescentia densius conferta ramis brevioribus.

Habitu et characteribus *H. pseudocorymboso* Greml. (= *sabaudum-prenanthoides-umbellatum*) Valesiae omnino simile.

Hab. in silva m. Trebević, 11—1200 m, ad Sarajevo Bosniae (K. Maly).

Tab. 301. *H. melanothyrsus* Maly et Zahn (loco classico leg. K. Maly).

Sectio XIX. **Glauciformia** Freyn, in Velenovsky, Fl. Bulg. (1891) p. 347; *Glaucina* N. P. II p. 1 pp. — Hypo- v. aphyllopodium, raro phyllopodium. Achaenia pallida v. luteo-brunnea. Plantae glaucae, habitu *Glaucorum* Fr. (*Glaucorum* N. P.), sed foliis latioribus, pilis argenteis longissimis (ad 15 mm) ornatis, involucris pedunculisque glandulosis, stylis luteis. — Sectioni *Italica* affinis, quasi formulae *Italica-Glauca* respondens, sed pilis longissimis valde insignis.

176. *Hieracium stuposum* Rehb., Fl. Germ. exc. (1830) p. 265 sub *H. saxatile* var.? *stuposum*; N. P. II 43; *H. stuppeum* Griseb., Comm. (1852) p. 71; Fr., Epier. p. 68; Rehb., Comp. p. 118; tab. 207; Freyn l. c. 347; *Crepis heterogyna* Froel., in DC. Prod. VII (1838) p. 169; *H. glaucum* Schloss. et Vuk., Fl. Croat. p. 902 pp.

Subspecies **nivisquamum** Degen et Zahn, Mag. bot. lap. (1908) p. 125. — Caulis 8—15 cm tantum altus gracilis indistincte striatus glaberrimus rarissimeve setis solitariis obsitus. Folia glauca rigida subparva, supra glabra, subtus disperse, margine subdense setosa (4—6 mm) et disperse microglandulosa, effloccosa; radicalia subnumerosa, exteriora minora obovato-spathulata obtusa in basin angustata, interiora oblongo-lanceolata v. lanceolata brevius longiusve acuminata acuta, basin versus in petiolum plerumque brevem late alatum sensim angustata, interdum fere haud petiolata, haud raro subtus + violacea; caulina 1—2 oblongo-lanceolata parva, margine longe setosa, effloccosa. Inflorescentia ± furcata squarrosa, acladio 10—50 mm longo, ramis primariis 1—3 valde remotis plerumque monocephalis, capitula (1—) 2—3 (—5). Involucrum 9—10 mm longum ovatum denique depressum. Squamae latiusculae obtusiusculae subobscurae, ubique dense floccosae lacteo-perfusae, epilosae, glandulis minutis dispersis v. rarissimis obsitae. Pedunculi 1—2-bracteati glaberrimi v. apice tantum dense floccosi, deorsum citissime deminute floccosi, inferne effloccosi. Flores saturate lutei, ligulis apice glabris, stylis concoloribus. Achaenia straminea.

Caule humili oligocephalo, capitulis lacteo-floccosis valde insigne.

Hab. Croatia: in rupinum fissuris m. Krivi Kuk et Milkovica Krug pr. Šugarska Duba c. 1200 m (Degen) et in m. Ljubičko brdo pr. Oštarija (Rossi).

Tab. 304. A. 1, 2. *H. stuposum* Rchb. f. ssp. *nivisquamum* Deg. et Zahn (in m. Krivi Kuk leg. A. de Degen). 1. Squama. 2. Pedunculus sub involucrio.

Species intermediae:

177. Hieracium Tommasinii Rchb. f., Comp. (1860) p. 118, t. 208; N. P. II 82; = **stuposum—racemosum** Zahn; *sabaudum-stuposum* N. P. I. c.

Subspecies **adenothyrsus** Sag. et Zahn, Mag. bot. lap. (1907) p. 223. — Caulis 35—85 cm altus crassiusculus strictus viridis omnino glaberrimus v. apice tantum parcissime floccosus, hypo- v. aphyllipodus. Folia inferiora supra caulis basin dense conferta, rosulam falsam c. 6-foliatam magnam formantia, interdum per rosulas secundarias etiam numerosiora, subpapyracea dilute viridia glaucescentia, obovato-lanceolata alato-petiolata, utrimque aequaliter attenuata acuta, v. basin versus longius angustata, (cum petiolo) ad 16 cm longa 4 cm lata, exteriora elliptica obtusa mucronulata, omnia remote denticulata, supra glabra sublucida, subtus subalbido-viridia disperse molliterque pilosa (3—5 mm), margine, superiora etiam in nervo dorsali modice pilosa, pilis subsetosis patentibus 4—10 mm longis (ut in *H. stuposum*); petioli basi lata vaginantes purpurascentesque. Folia caulina supra rosulam falsam cito decrescentia, ad 10 (interdum 2—3 tantum) evoluta ± remota, sursum sensim decrescentia, inferiora oblongo-lanceolata paulo infra apicem latissima deorsum longe sensimque in petiolum late alatum attenuata, reliqua sensim minus attenuata subsessilia, superiora lanceolata acutissima sessilia, in bracteis inflorescentiae decrescentia, saepissime longius pilosa quam inferiora. Inflorescentia subindeterminata paniculata, acladio 10—25 mm longo, ramis primariis (2—) 4—7 (—10), ordinibus axium 3 rarissime 4, capitula (3—) 6 v. subnumerosa (interdum ad 40), sed rami inferiores plerumque abbreviati, capitulum terminale tantum evolventes v. omnino gemmiformes. Involucrum ad 9 mm longum globoso-ovatum, magnitudine ut in *H. silvatico*, atroviride; squamae imbricatae subangustae acutiusculae v. acutae atro-virides dilute viridi-marginatae, apice breviter barbulatae basin versus in margine subfloccosae, ubique sat dense glandulosae, glandulis partim minutis luteolis, et sparsim breviter-

que (0,5 mm) pilosae. Pedunculi graciles, superne densissime floccosi, sat dense breviterque glandulosi fere epilosi, 3—5 bracteis pallide viridibus in dorso obscuris obsiti. Flores lutei, stylis paulo obscurioribus. Achaenia brunneo-atra.

Foliatio ut in ssp. *Tommasinii* typ., inflorescentia *H. stuppeosi*.

Hab. Hercegovina: Polje pr. Trebistova inter Posušje et Podklečani, 900 m (Handel-Mazzetti); Montenegro: Njeguš 1000 m (Gelmi, Sagorski). — Albania: Greča versus Selce (Baldacci, It. Alban. VII no. 233!), Trijepsi (idem no. 186!).

Var. *β. pilosiceps* Rohl. et Zahn, in Fedde, Repert. VI (1909) p. 236; foliis caulinis ad 12 plerisque parvis, pedunculis dense minuteque glandulosis apice tantum pilis brevibus solitariis munitis, capitulis subcanoviridibus sat parvis subdense glandulosis subfloccosis disperse pilosis. — Montenegro: Ad coenobium Piva (Rohlena!).

Tab. 302. *H. Tommasinii* Rchb. f. ssp. *adenothyrsus* Sag. et Zahn (pr. Njeguš, leg. Sagorski). 1. Squama. 2. Pedunculus sub involucrio.

Subspecies *setosissimum* N. P. II 83. — Caulis ad 6 dm altus gracilis, aphyllopodus, apice ramosus. Folia caulina ad 20 oblongo-lanceolata v. lanceolata undulata breviter acuta apice saepe plicata basin versus longe sensim attenuata, aut inferiora conferta magna, superiora abrupte decrescentia parva lanceolata v. linearia longius acuminata, aut omnia sensim decrescentia, subintegerrima v. remote denticulata, glauca. Inflorescentia laxa paniculata, acladio ad 8 cm longo, ramis 3—8 valde remotis, inferioribus longis divaricatis foliolaceis, ordinibus axium 3 (—4), capitula pauca v. numerosa. Involucrum denique globosum, squamis latiusculis acutis viridibus dorso obscurioribus. Bracteolae 2—5 parvae margine crinitae. Pili in involucrio modice numerosi diluti (1 mm), in caulomatibus superne dispersi, deorsum numerosiores v. densi tenuiter setosi (6—8 mm), in foliis supra nulli, margine nervoque dorsali numerosi ad 10 (—12) mm longi, subtus dispersi. Glandulae involucri subnumerosae dilutae subparvae, in pedunculis mediocres v. subnullae. Flocci in involucrio basin versus modice numerosi, caulomata superne canofloccosa, deorsum cito deminuti, sed profunde descendentes, in foliis nulli. Flores lutei, stylis subobscuris. Achaenia dilute brunnea.

Bosnia: Sarajevo (Blau no. 2377!), m. Trebevic (id. no. 1622! et 1664!), Starigrad (id. no. 677!), in v. Jarčedol pr. Sarajevo (Knapp!), in faucibus Miljačka et Mošćanica pr. Sarajevo (Maly!). — Hercegovina: Prenj planina (Prodán), Podporim 560 m (Maly). — Serbia: Mokragora (Pančič).

Tab. 303. *H. Tommasinii* Rchb. f. ssp. *setosissimum* N. P. (pr. Sarajevo leg. K. Maly). 1. Squama. 2. Pedunculus sub involucrio.

Sectio XX. *Hololeia* Fr., Epicr. 138 („*Hololeion*“); Zahn, in Koch Syn. (1901) 1929; *Cernua* Uechtr.; Freyn in Velen., Fl. Bulg.; *Oliganthae* A. Kerner, Fl. Austr.-Hung. no. 202! — Folia angusta, caulina pauca v. numerosa, basi attenuata v. subaequilata sessilia saepe subamplexicaulia, glauca, saepe glaberrima, sensim decrescentia. Capitula ± numerosa, squamis adpressis obtusis, ab extimis brevibus abrupte in interiores longas transeuntibus, subbiserialibus. Ligulae apice glabrae, stylus obscurus. Achaenia + brunnea. Alveoli dentati. Phyllopodium v. aphyllopodium. Inflorescentia laxa paniculata saepe valde squarrosa.

178. Hieracium sparsiflorum (Friv.) Fr. Epicr. (1862) p. 139; *H. spursum* Friv., in Flora (1836) p. 426 pp.: *H. Reuterianum* Boiss., Diagn. I 4 p. 31 et in Fl. Orient. III (1875) p. 872.

Subspecies numerosas in Caucaso, Asia minore, Peninsula Balcania et in Transsilvania habet, unam etiam in Silesia (*H. silesiacum* Krause), alteram in Tirolia et Carinthia: *H. Grisebachii* A. Kern.

Subspecies **Grisebachii** A. Kern. in litt. ad Griseb. (1861) et in Fl. Austr. — Hung. nr. 202 (1881)!: Zahn. in Koch Syn. (1901) p. 1930. — Caulis ad 3 (cult. ad 5) dm altus, phyllopodus v. hypophyllopodus erectus strictus glaberrimus, inferne foliatus superne bracteatus. Folia glauca subcito (cult. sensim) decrescentia elongato-lanceolata, basi vix attenuata sessilia semiamplexicaulia, inferiora conferta remote denticulata sparsim pilosa v. glabrescentia, interdum margine nervoque dorsali basin versus subdensius breviterque pilosa, superiora + remota glaberrima integerrima in bracteas transeuntia. Inflorescentia racemosa v. paniculata (in planta culta valde squarrosa) oligocephala: rami 3—4 breves 1—2 cephalii (in pl. cult. elongati oligocephali). Involucrum gracile cylindricum glauco-olivaceum, squamis parum numerosis subbiserialibus, e basi latiuscula acuminatis obtusis apice subbarbulatis, epilosis, interioribus sordide viridibus, extimis brevibus subatris. Bracteolae complures, in squamas transeuntes. Flores lutei, stylus obscurus, achaenia pallide rufo-brunnea.

Tirolia: in valle Oetzthal: inter Pillberg et Gurgl 18—2000 m (Tappeiner! 1844 sub nom. *H. Hausmanni* in sched.: A. Kerner in Fl. Austr.-Hung. exs. 202!). Carinthia: Gartenalpe pr. Reichenau (Pacher sub. nom. *crocatum* et *bupleuroides*!).

Tab. 304, fig. B. *sparsiflorum* (Triv.) Fr. ssp. *Grisebachii* A. Kern. (in v. Oetzthal loc. class. legi). 3. Squama.

Subspecies **silesiacum** Krause, Jahresber. schles. Ges. (1850) p. 101; Fr., Epicr. (1862) p. 96; Fick, Fl. Schles. p. 277; *H. vulgatum* × *prenanthoides*? Neilr., Krit. Zus. Hierac. (1871) p. 476; *H. prenanthoides-rigidum* vel *-vulgatum* Krause l. c. — Phyllopodum. Caulis ± gracilis erectus, (2—) 3—4 dm altus, saepe subascendens, substriatus, saepe subflexuosus, compressibilis, inferne v. ubique disperse v. mediocriter pilosus, effloccosus, eglandulosus. Folia radicalia 2—5, florendi tempore interdum ± emarcida, exteriora elliptica v. oblongo-ovata, in petiolum alatum ± brevem attenuata, obtusa mucronata; caulina (3—) 4—8 (—10) sensim decrescentia subremota lanceolata, inferiora basi longe attenuata subpetiolata, basi ipsa late vaginantia, sequentia longa lanceolata v. oblongo-lanceolata, basi brevius longius attenuata petioliformia, reliqua basi longe v. (summa) breviter attenuata sessilia subamplexicaulia, omnia acuminata acuta. Folia omnia lutescenti- et canescenti-viridia glaucescentia, subtus subconcoloria, margine remote arguteque denticulata, rarius leviter sinuato-dentata, summa subintegerrima margine subrevoluto, supra glabra, subtus disperse, margine nervoque dorsali modice pilosa. Inflorescentia paniculata v. racemoso-paniculata, (2—) 4—8 (—12)-cephala, acladio 3—12 mm longo, ramis 2—6 rubremotis, oblique v. subarcuato-ascendentibus saepe brevibus, simpliciter ramulosis. Involucrum cylindrico-ovatum basi rotundatum, (11—) 12—13 mm longum, initio saepe nutans, squamis latiusculis obtusis irregulariter imbricatis atroviridibus albido-viridi-marginatis, interioribus albido-viridibus, pilis dispersis subatris glandulisque sparsis parvis obsitis. Pedunculi consimiles, pariter ac involucrum subeffloccosi. Flores saturate v. aureo-lutei, ligulis glabris. Stylus obscurus, achaenia dilute brunnea.

Moravia: In montibus „Gesenke“: Grosser Kessel, Hungerlehne, Leiterberg, Altvater, Ameisenhügel.

Exsiccata: Hieraciotheca Europaea No. 398.

Tab. 305, fig. A 1, 2. *H. sparsiflorum* (Friv.) Fries ssp. *silesiacum* Krause (Grosser Kessel, leg. A. Oborny). 1. Squama. 2. Pedunculus sub involucrio.

Subspecies **tubulatum** Zahn, in Mag. bot. lap. (1906) p. 81. — Caulis ad 45 cm altus gracilis v. subcrassiusculus subtiliter striatus basi subascendens, strictus, fere modice v. basin versus subdensius pilosus, etiam glandulis dilutis valde inconspicuis solitariis obsitus, phyllopodus. Folia rosularica c. 5 saepissime breviter petiolata, exteriora elliptica obtusa v. oblonga obtusiuscula, interiora late lanceolata v. lanceolata acuta ad 16 cm longa et 3 cm lata, omnia tenuiter papyracea, basin versus cito sensimve attenuata (interiora in petiolum alatum angustata) repando-denticulata v. interdum 1—2 dentibus maioribus praedita, olivaceo-viridia glaucescentia, supra fere epilosa, interdum pilis nonnullis brevibus adspersa, subtus parce molliterque pilosa, in margine nervoque dorsali mediocriter pilosa et praecipue iuniora distincte microglandulosa, petiolus basin versus (saepe violaceus) subvillosulus, pilis 1—3 mm longis; rosulae iuniores basin versus pilis ad 6 mm l. sericeo-villosae; caulina 3—4 remota, inferiora 1—2 radicalibus similia basin versus longe attenuata sessilia, reliqua anguste lanceolata v. linearia. Inflorescentia laxa squaroso-paniculata indeterminata, acladio ad 25 mm longo, ramis primariis 4—6 valde remotis, inferioribus elongatis apicem versus simpliciter (rarius dupliciter) ramulosis 2—6-cephalis. Capitula 10—20. Involucrum 11—12 mm longum crasse cylindrico-ovatum basi rotundatum, squamis sublatiusculis longe acuminatis apice obtusiusculis v. internis acutis, apice subbarbulatis dorso obscuris v. nigro-viridibus, internis margine pallide viridibus, omnibus pilis subobscuris basi atris 2 mm longis subpilosis et glandulis mediocriter numerosis conspicuis varie longis, praecipue basin versus etiam floccis subdispersis obsitis. Pedunculi tenues subflexuosi modice pilosi subglandulosi subfloccosi, pilis obscuris basi atris 1,5—3 mm longis. Bractaeae 3—5, superiores sub involucrio confertae squamiformes, sed angustiores quam squamae, obscurae subpilosae subglandulosae. Flores dilute lutei exsiccati pallide lutei, omnes anguste tubulosi apice breviter dentati subciliati; stylus obscurus ex tubo haud exsertus. Achaenia dilute brunnea.

Hungaria: Vurfu Pelaga in m. Retyezát. 20—2300 m (A. de Degen!); Bosnia: in rupium fissuris m. Veternik Ljubična-planinae (G. de Beck!).

Tab. 306. *H. sparsiflorum* (Friv.) Fries ssp. *tubulatum* Zahn (e m. Vurfu Pelaga, leg. A. de Degen). 1. Flos. 2. Squama. 3. Pedunculus sub involucrio.

Subspecies **Kotschyanum** Heuff. in Flora (1853) p. 618; an Freyn in Velen., Fl. Bulg. 351? — Caulis 2 ad 4 dm altus gracilis pilosus v. superne glabrescens, phyllopodus. Folia radicalia 2—5 oblongo-lanceolata v. lanceolata utrimque attenuata breviter alato-petiolata, externa subobtusa, sed florendi tempore plerumque emarcida, omnia lutescenti- et glaucescenti-viridia supra ± glabra, subtus subdense pilosa, integerrima v. obsolete denticulata, pleraque acuta; caulina ad 8 anguste lanceolata v. summa linearia, subtus pilosa. Inflorescentia racemoso-paniculata, acladio ad 10 mm longo, ramis 4—8 brevibus (inferioribus saepe abortis) 1—3-cephalis (v. capitulum terminale tantum evolutum, inferiora 2 aborta). Pedunculi superne floccosi sparsim pilosi subglandulosi. Involucrum 12—13 mm longum globoso-ovatum effloccosum subpilosum subglandulosum; squamis latiusculis lanceolatis obtusiusculis v. internis acutis. Ligulae luteae, stylus obscurus, achaenia brunnea.

Transsilvania: Versus alpem Retyezát, comit. Hunyad Hungariae (Heuffel!); in valle „Kimpu nyelului“ ad fontem fluminis „Oláh Zsil“ sub alpibus Retyezát 1250 m (Jávorka).

Tab. 307, fig. A, 1, 2. *H. sparsiflorum* (Friv.) Fr. ssp. *Kotschyianum* Heuff. (e loco classico, leg. A. de Degen). 1. Squama. 2. Pedunculus sub involucri.

179. Hieracium stirovacense Deg. et Zahn, Mag. bot. lap. (1906) p. 91 = **sparsiflorum—gymnocephalum?**; *sparsiflorum—Orieni* Zahn l. c. — Habitu *H. gymnocephali* Griseb., sed multo minus pilosum. Rhizoma crassiusculum fibrillosum saepe pluricaule. Caulis 25—30 cm altus gracilis v. crassiusculus subflexuosus, subangulato-striatus, superne parcepilosus, basin versus densius pilosus, effleccosus, eglandulosus, demum brunneo- (basin versus violaceo-) coloratus, hypophyllopodus. Folia radicalia florendi tempore emarcida, sed in rosulis non cauligeris lanceolata sat longe petiolata, utrimque (basin versus longius) attenuata, acutiuscula mucronata. Folia caulina c. 6, inferiora 2—3 magis elongata (110:17 mm) lanceolata, basin versus longe attenuata, sessilia v. breviter alato-petiolata, apicem versus minus longe subangustata acutiuscula, media breviora, fere aequilata, basi rotundata sessilia, supra basin saepe paulo angustiora, inconspicue panduriformia, breviter acuta; summa e basi ovata sensim acuminata breviter acuta v. acuta; omnia dilute viridia, superne parum glaucescentia, margine remote denticulata, saepissime subundulata, apice mucronata, utrimque pilosa, in margine nervoque dorsali subvillosa v. fere villosa, pilis subsericeis flexuosis distincte dentatis more *H. gymnocephali* contexta, summa saepe in parte superiore glabra. Inflorescentia furcata 1—2-cephala, acladio 2—9 cm longo, ramis primariis 1. Involucrium 11—13 mm longum late ovatum demum depressum basi truncatum; squamae imbricatae triangulariter lanceolatae basi ad 2 mm latae, e basi lata sensim acuminatae acutae olivaceo-virides, dorso obscuriores, pilis sparsis dilutis brevibus flexuosis glandulisque solitariis v. dispersis brevibus obsitae, effloccosae. Pedunculi superne subsulcati et sparsim flexuoso-pilosi effloccosi virides. Bractee 3—6, inferiores 1—3 remotae, in acladio interdum subfoliolaceae, reliquae sub involucrio confertae squamiformes. Flores lutei, ligulae apice glabrae, stylus luteus, achaenia demum dilute brunnea ad 4,8 mm longa.

Croatia: in rupium fissuris m. Stirovač (Badauj) prope Medak rarissimum (A. de Degen!). — Julio.

Tab. 307, fig. B. *H. stirovacense* Deg. et Zahn (e loco classico, leg. A. de Degen).

180. Hieracium gymnodermum Benz et Zahn = **sparsiflorum—atratum**. — Phyllopodum glaucescens. Caulis gracilis ad 45 cm altus striatus, basi tantum subpilosus. Folia radicalia 2—3 longe petiolata oblongo-lanceolata magna breviter acuta v. acutiuscula, in petiolum longe attenuata, tenuiter papyracea, valde glabrescentia v. glabra, in margine petioloque modice breviterque ciliata et disperse glandulosa, praecipue infra medium \pm grosse et irregulariter sinuato- et subserrato-dentata; caulina 4—7 remota, imum radicalibus simile, reliqua basi attenuata sessilia oblongo-lanceolata v. basi truncata v. ovato sessilia parum amplexicaulia magis acuminata acuta basi grosse dentata v. summa \pm integerrima. Inflorescentia laxa paniculata, acladio ad 3 cm longo, ramis 3—5 remotis oblique erectis simpliciter ramulosis 1—3-cephalis. Capitula 6—12. Involucrium globoso-ovatum atro-viride subdense glandulosum subeffloccosum, squamis latiusculis lanceolatis obtusiusculis v. acutis, internis viridi-

marginatis. Pedunculi atrovirides subdense floccosi glandulosique. Flores lutei, ligulae ciliatae, stylus obscurus, achaenia atrobrunnea. — Verosimiliter inter *H. atratum* Fr. et *H. sparsiflori* ssp. *Grisebachii* hybridum. — Initio Aug.

Carinthia: Gartenalpe pr. Reichenau, in consortio *H. atrati* et *H. Grisebachii* (leg. Pacher!).

Tab. 308. *H. gymnodermum* Benz et Zahn (e loco classico). 1. Apex ligularum. 2. Squama. 3. Foliorum margo.

181. Hieracium Naegelianum Pančič, Elench. pl. in Crna Gora lect. (1875) p. 57; N. P. II p. 6; Baldacci, Riv. coll. bot. Alb. (1895) p. 54; Halácsy, Consp. Fl. Graeca II (1902) p. 237; *H. bertisceum* Panč. mss.; *H. undulatum* Boiss., Fl. Orient. III (1875) p. 867; Suppl. p. 327; Halácsy, Beitr. Fl. Epier. p. 29; nec Ait. — Rhizoma horizontale v. obliquum tenue. Caulis 13—22 cm altus tenuis non striatus scapiformis monocephalus, phyllopodus. Folia rosularia 6—8, exteriora spathulata apice rotundata, reliqua linearia acuta, omnia integerrima glauca saepe \pm undulata, basi vix dilatata, caulina 2—3 anguste linearia v. subulata. Involuerum 10 mm longum late ovatum basi rotundatum, squamis angustis acutissimis saturate viridibus immarginatis subglandulosis effloccosis, in dorso pilis 1 mm longis basi atris vix modice numerosis obsitis. Bractee paucae parvae obscurae. Reliqua planta eglandulosa epilosa effloccosa. Flores stylique lutei. Achaenia straminea, 3,5 mm longa. Pappus niveus. — Jul.—Aug.

Aetolia: in m. Tymphrestus, Korax (Heldreich!); Thessalia: Olympus, Oeta (id.); Epirus: in iugo Peristeri m. Pindos 2200 m (Bald., It. Alb.-Epicr. III nr. 173!); Albania: In m. Čika supra pagum Tobač (Bald., It. Alb. II nr. 147!); Montenegro: Mrčenov do sub m. Kom (Pančič!), in m. Maglič (Rohlena!). Bosnia: In m. Pod Stogum Zelena gorae (Lakatos!), in m. Ogorjeli Kuk Treskavica planinae (Fiala!). — Aliae ssp. in Italia: Mte Morrone etc.

Tab. 305, fig. B. *H. Naegelianum* Panč. (in m. Zelena gora, leg. Lakatos). 1. Squama. 2. Pedunculus sub involucrio.

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Editae sunt signaturae editionis latinae:

Sign.	1.	14. XII.	1904	Sign.	23.	17./X.	1908
"	2.	1. III.	1905	"	24.	28./I.	1909
"	3.	3./V.	"	"	25.	13./III.	"
"	4.	24./VI.	"	"	26.	26./IV.	"
"	5.	20./IX.	"	"	27.	24./V.	"
"	6.	29./XII.	"	"	28.	13./VII.	"
"	7.	5./III.	1906	"	29.	15./X.	"
"	8.	21./IV.	"	"	30.	30./XI.	"
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"	14.	5./II.	1907	"	34.	20./VI.	"
"	15.	25./IV.	"	"	35.	31./VIII.	"
"	16.	15./VI.	"	"	36.	21./XI.	"
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"	18.	28./IX.	"	"	38.	23./III.	"
"	19.	31./XII.	"	"	39.	23./V.	"
"	20.	13./III.	1908	"	40.	31./VII.	"
"	21.	13./V.	"	"	41.	1./IX.	"
"	22.	3./VII.	"				

Hieracia

Critica Vel Minus Cognita

Florae Germanicae et Helveticae

Simul Terrarum Adiacentium

Ergo

Europae Mediae.

Auctoribus

D^{re} J. Murr, K. H. Zahn, J. Poell.

Pars I

Tabulae 1—81.

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Lipsiae et Gerae

Sumptibus Friederici de Zezschwitz

1904—1906.



Hieracium bupleuroides Gmel. (Græc. *Canifolium* - L. S. L.)
 var. *Gampoidenense* - H. et B.

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A. *Hieracium* L. sp. *calycifolium* - L. P.
 B. " *glabratum* Hepp. sp. *glabratiforme* - Hier.

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Hier. villosicaps. L'P
A. speciosulatum. L'P B. sp. rivetrichum. L'P

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A. *Hieracium* L. B. *Hier. Fieberianum* L. D.



Hier. sparsistratum L. SP.
A. sp. Halense - *Hal.* *B. sp. Medicistratum* W. et A.



Hieracium cicutarium - L.



Hieracium glabratoides - Hierac.



Macraea exaltans. Muir



JP

A12 *Hieracium amphigenum* - A. F. sp. *fuliginatum* (Huter)

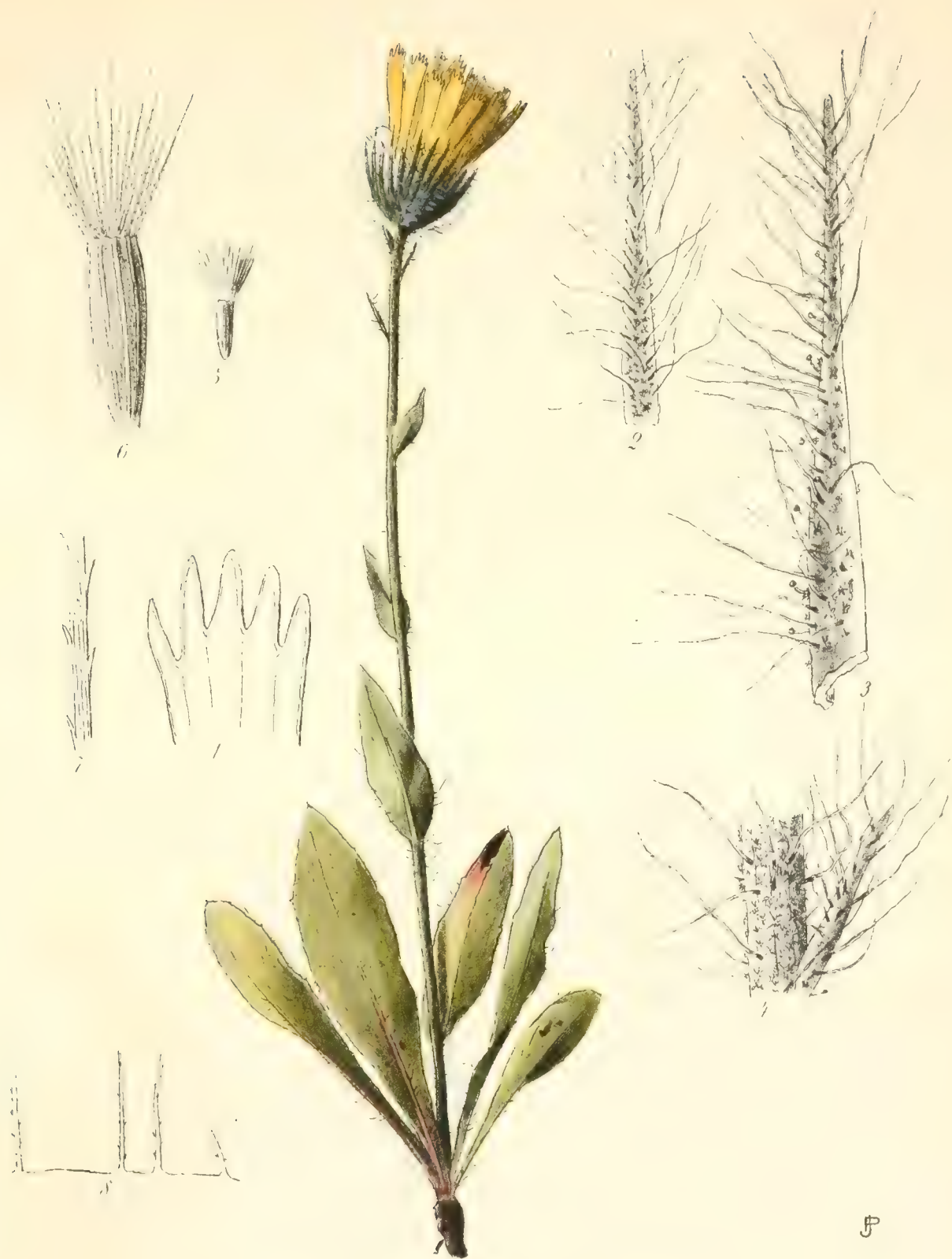
B34 *Hier. amphigenum* - A. F. sp. *amphigenum* (A. F.)

C56 *Hier. subnigrum* G.G.





Hieracium dasytrichum - A. & T.
A. B. ssp. dimidiatum (Huter) B. & C. *ssp. capnicoides* (Kerner)



Hieracium diabolicum. J. S.



Hieracium Schmidtii, Tausch sp. cyanum. 1. 7



Hieracium silvaticum (L.) Grex : *Ranunc*
ssp. praealpium A. T. et Goutier.



Hieracium sylvaticum L. - *Grass* - *Pauciflorum* var. *glaucinum* Ford



Hieracium silvaticum L. - *Gen. Cirruloides*. *Vahen* sp. *cirruloides*. *Vahen*



Hieracium sylvaticum L. — Grev. *Crepidiflorum* Solmsk.
 var. *subditivum*. H. et. V. *p. extenuatum*. H. et. V.



Hieracium sibiricum L.
 At 1 septifolium (variety) B & S sp. longiflorum. L. F.

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Hieracium divinum Led. sp. *Helichrysum* Whittl. Bp.

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Hieracium divinum Ledeb. sp. arvenarium Schults. Bsp.

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Hieracium vulgatum - Fruct. sp. approximatum - Ford

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Hieracium vulgatum (Ficaria verna) L.

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Hieracium vulgatum (Fries) ssp. *Conchodes*. Murr. et. Zahn

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Hieracium Richtense (L.)



Hieracium Flammense A. Kerner

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Hieracium Gauderi Hausskn.
A. 1 sp. Martii Gremli B. 5 sp. Gauderi Hausskn.

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Hieracium subaenariense. Hier.
A. & sp. pseudosaricicum. Hier. B. & *sp. incanum*. Hier.



Hieracium bifidum (W.) Ret. var. *pseudodentatum* Met. & C.



Hieracium bifidum - Kit. *ssp. chartaceum* Celak.



Hieracium Wiesbaurianum Hecht.
A + B sp. *Wiesbaurianum* Hecht., *B* sp. *diversifolium* Celak.



Hieracium cinerascens Ferd. var. *graniticum* Sch. Bip.

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Hieracium dentatum Hepp, *Gr. villosum*. 1. P.
 A 1 2 *ssp. villosum*. 1. P. B 3 4 *ssp. acuminatum*. 1. P.

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Hieracium dentatum Heppé Græc. *subvillosum*. A. 1. P.
 A. 1. 2. *ssp. subvillosum*. A. 1. 2. *genuinum f. undulatum*. H. et. V.
 B. 3. 4. *ssp. subtruncatum*. A. 1. P.



Hieracium dentatum Hepp ex Villot. A. P.
 A. B. sp. *pseudoperiectum* Christen. B. B. sp. *Hollingenense* Harz.



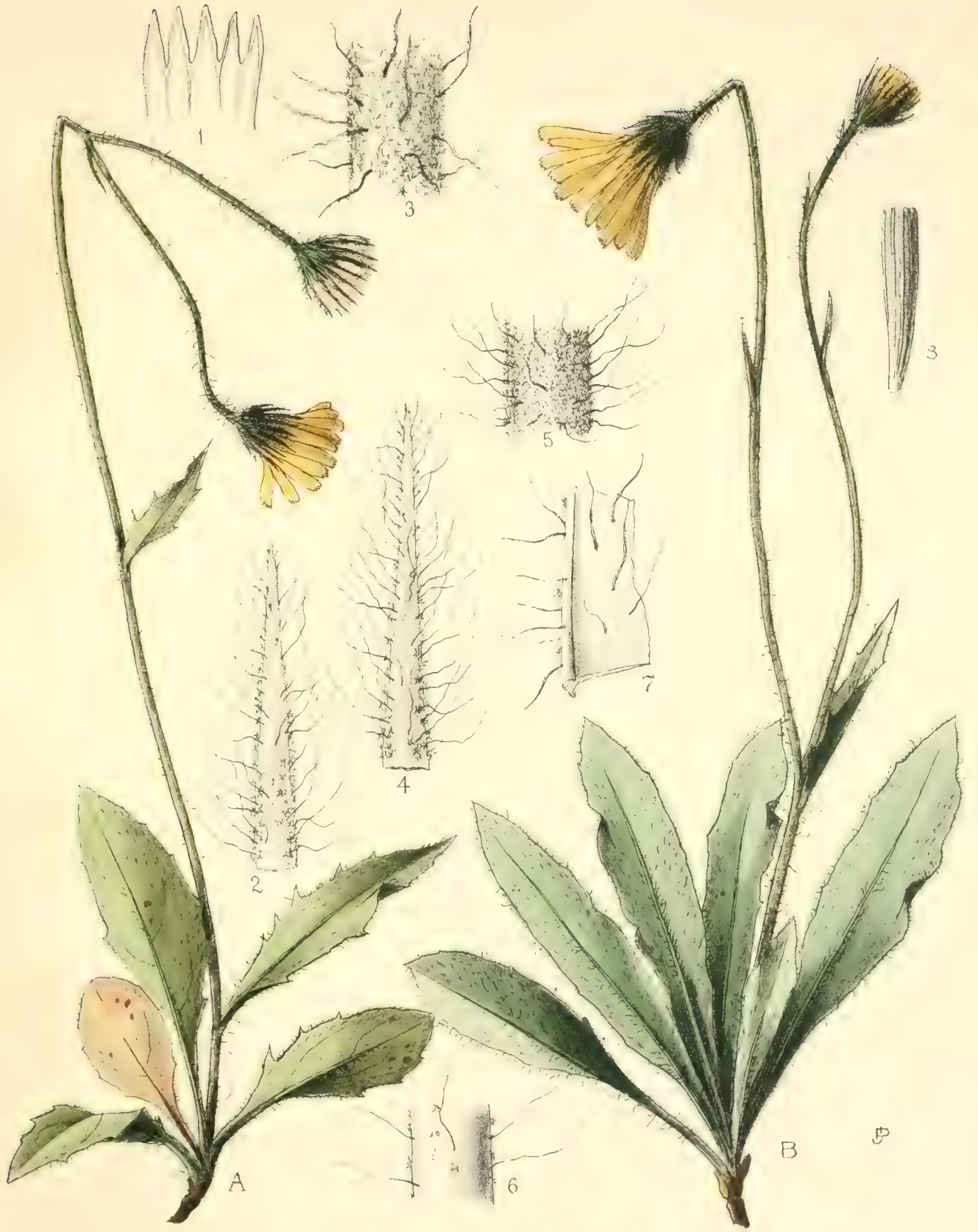
Hieracium dentatum Hepp, *Grex Dentatiforme*. V. P.
A 13. 22p. *Carinthicola*. V. P. B 4. 5 22p. *dentatiforme*. V. P.
var. *viridius*. Marr.



Hieracium dentatum Hepp.

A 12. *Grex Dentatum* - 1. *P* sp. *cuspidatifolium* - Mur.

B 3 5. *Grex Dentatiforme* - 1. *P* sp. *cruentense* - 1. *P*



Hieracium dentatum Hepp & Griseb. *Dentatum* L. f.
A & B. *prionodes* L. f. B & C. *Gaudini* Christener



Theracium dentatum Hepp, *Grex dentatum*. 1. 2.
 1. 3. *opacanthoides*. 1. 2. B & C *opacanthoides*. 1. 2.



Hieracium dentatum Hepp, *Grex Expallens* - A. & P.
 A. & B. *expallens* Fr. var. *compensatum* - Harr.
 B. & C. *Grex Waldense* - Harr. *sp. subreductum* - H. et G.



Hieracium dentatum Hoppe, *Grex Waldense* - Harr.
A & B. *ssp. Waldense* - Harr. B & C. *ssp. ramicifolium* - Harr.



Hieracium - Murrianum - L. F.

A & B. sp. - *Murrianum* - L. F. B & C. sp. *anthyllifolium* - Mur.

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Hieracium marianum A. F.
 A & B. sp. *Hieracium marianum* B. & C. sp. *pseudomarianum* Vahl.

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Hieracium - Fraxetianum Christen.
- L.H. ssp. porrectiforme - Murr. P. 59: ssp. decadifolium - Kerner.

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Hieracium incisum Hepp.

1-5. ssp. *taccidens* - Harr. 6. var. *subhircadifolium* - Harr



Hieracium incisum Hoppe.
 A. ssp. *humiliforme* Hurr. B. s. ssp. *Gelmitianum* Tarnethien.
 C. s. ssp. *leptochlorum* Vahne



Hieracium subspeciesum. *Paq. in litt. Græc. Palutani*. A. L.
 A 2: ssp. *palutani*. A. L. (var. *pseudosixelinum* (Vahl.)
 B 3: ssp. *delicetcephalum*. A. L.



Hieracium subspecies - *laevis* in litt. *Grev* (*Oxyodon* - *rahn.*
C. 13: ssp. oxyodon - *Fr.* - *B. 47: ssp. inclinatum* - *C. 17*



Hieracium subspeciosum - Lag. in litt.
Grev. Glaucopsis - L. f. sp. *Elascici* Lagg.



Hieracium subspeciesum. A. & G. in litt. Guss. *Subspeciesum*. A. & P.
 . (13: ssp. *concoloratum*. A. & P. B. & C. ssp. *melanophacum*. A. & P.



Hieracium subspeciosum (Grev.) subspeciosum - L.F.
 L. 14: ssp. pseudoplantaginicum (Vahl) - R. 58: ssp. calcicola - L.F.

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Hieracium politum Fries.

. 1. 3: ssp. - troeli Perdot, - B. 4 10: ssp. subisaricum. M. d. 5.

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. A. 14: *Hieracium armerioides*. A. T. sp. *armerioides*. A. T.
 B. 58: *Hieracium astutatum*. A. T. sp. *leucochlorum*. A. T.

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Hieracium ustulatum. L. f.
 . C. 13: ssp. *ustulatum* - L. f. - B. 4 v: ssp. *abconditum* Walter

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Hieracium ustulatum . C. T.
 . A. 13: ssp. *nigritellum* . C. T. . B. 4: ssp. *farreanum* . C. T.



Hieracium cirrillum - L. Fesp. bichopsis Eaton.



Hieracium cirratum - L. f. sp. *hypocherideum* - L. f.



Hieracium cirritum . A. T. Esp. *cirritum* . A. T.
 . A. 14. var. *lingulatum* . A. P. B. 54. var. *nigrescens* . A. T.



. 413. *Hieracium cirritum* . C. T. sp. melanops . C. T.
. B. 47. *Hier. pseudocirritum* . Teulen et Bohn.



Hieracium apophyllum. V.P.

A. 1-3. *ssp. apophyllum*. V.P. B. 4-7. *ssp. singularare* Walter.

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. 43. *Hieracium sublongifolium* Zahn.
. 44. *Hier. rapicolidforme* Zahn.

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Hieracium cicutarium Fr. sp. *carnosum* Wiesbaur.

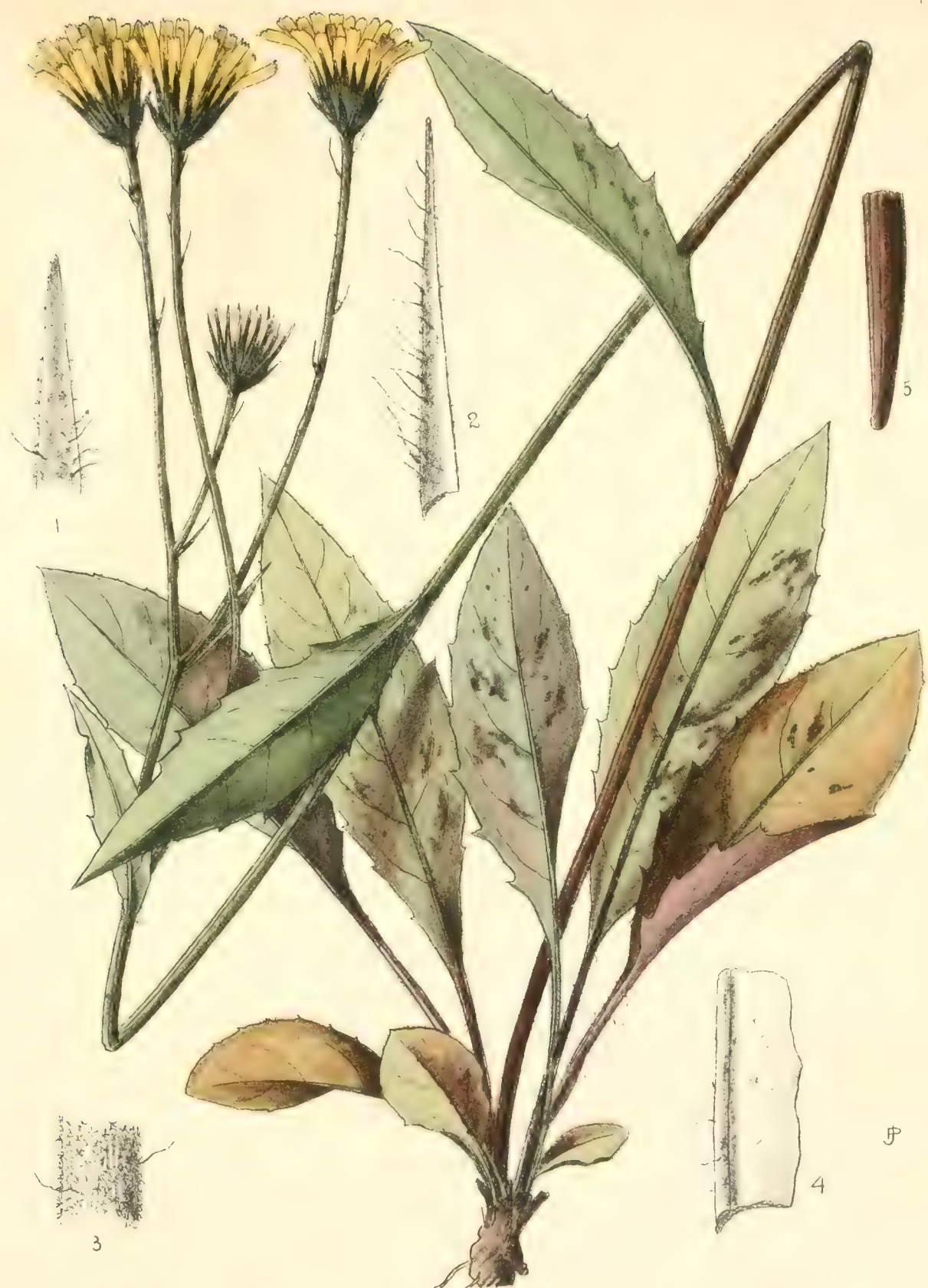
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Hieracium caesium. L. sp. curcum. H. et L.



Hieracium ssp. pseudopallescens Vatn.



Hieracium ramosum H. & A.
ssp. lentiginosum H. & A.

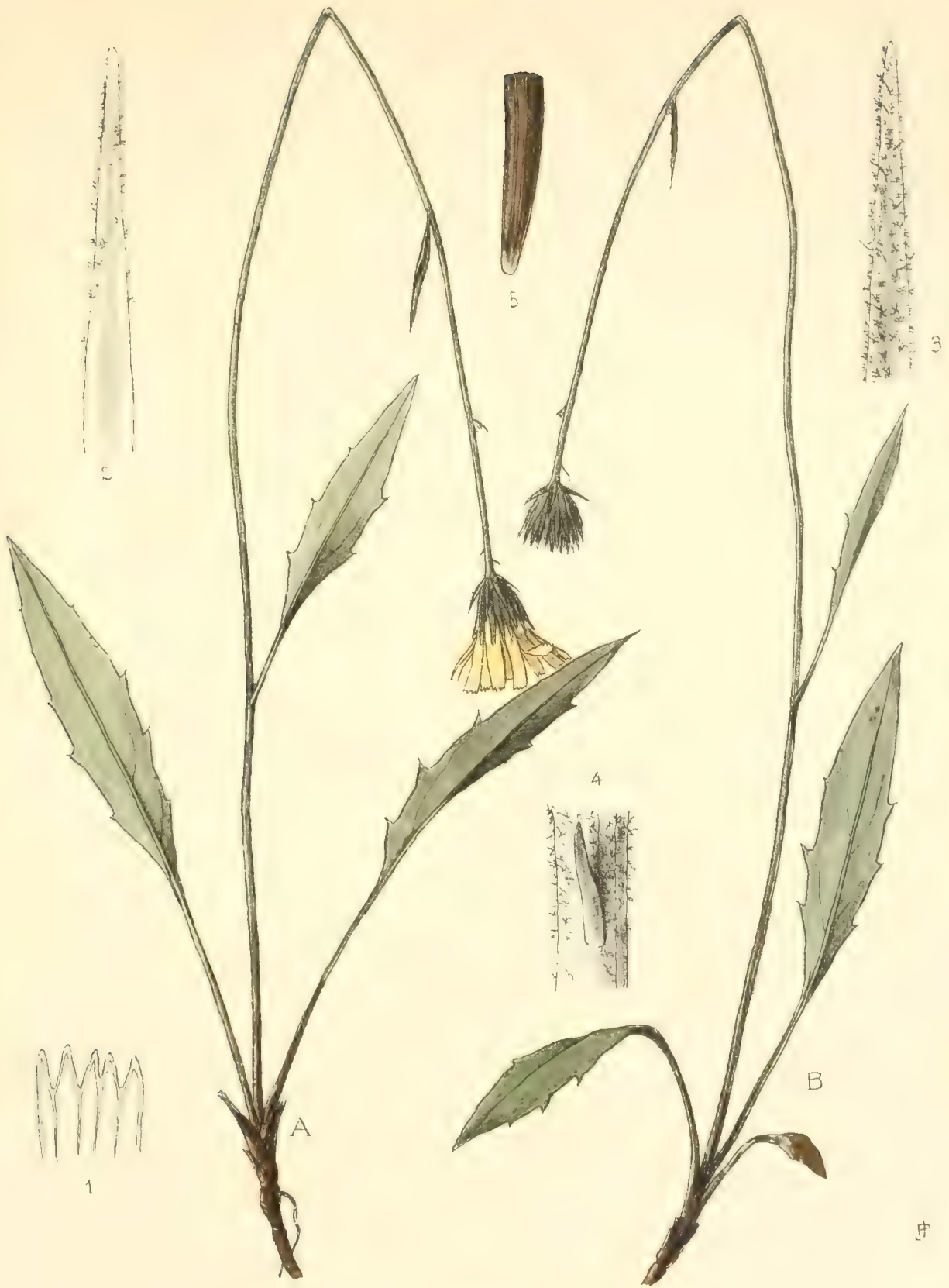


Hieracium ramosum H. & A.
 . A. & B. sp. *Sondneri*. Væg.
 . B. & C. sp. *subtancifolium*. Hær.



Hieracium ramosum W. & A. ssp. *Brennerianum* A. N.

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Hieracium Hayekii. Hurr.

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Hieracium Dollineri Schultze Bip.
 . f. 13. ssp. *Gudense* Wiesbauer. B 4.5. ssp. *glauco-genes*. Wet. 2.

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Hieracium Dollineri Schultze - Bip.
 ssp. *fucatum* Zahn v. *glaucescens*. H. r. f. *horrens*. Mur.



Hieracium Dollineri, Schultze, Bip.
 ssp. *Dollineri*, f. Schultze v. *sublaevigatum* G. v. Beck.



Hieracium Dollineri Schultz. - *Hyg. ssp. austriacum* Nees & Mey.



Hieracium Clausii Dichtl.



Hieracium tunae, Trulseniae Nuhn.



Hieracium leptocarpum Vahl.

. A. 1 2 ssp. *pseudotridentatum* Vahl. . B. 3 4 ssp. *subintermedium* Vahl.



Hieracium crenatum V. L. Asp. *Hieracium crenatum* Cherny



Hieracium Benzianum, H. & A. Grex *Eversianum*
 ssp. *Eversianum*, L. F.

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Hieracium Benzianum, H. & A. Grex *Benzianum*
ssp. *clenodentiforme*, Benx et. Valm.

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Hieracium Bonxianum. M. & G. *Cutyalictum*
ssp. inexpertum M. & G.

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A, B Hieracium saxifragum, Fr. ssp. rupigenum Cich.
B4, 5 Hier. creader, Fr.



Hieracium cnesmeoides, *Fries. ssp. porphyriticum* . F. Schultze.



Hieracium enesmeoides Fr.

A 1-3 ssp. *scymprucianum* Holf. B 4-5 ssp. *danubiale* Berk.



Hieracium transsilvanicum Heuffel.



Hieracium trebevicianum N. Maly.



A. 13. *Hieracium praecurrens* Tuck. ssp. *praecurrens* Tuck.
 B. 4 6. *Hier. cablonicense* Hot. var. *subglandulosum* Tuck.



Hieracium caesiogenum Wet. et Nuhn.



Hieracium pseudofastigiatum Degen et Pruhn.



Hieracium Waldsteinii Fausch sp. plurimulorum Hervey.



P

Hieracium Waldsteini Fausch sp. tangelicum. V. 2.



♂

Hieracium gymnocephalum Griseb. ssp. *erieni* Heimerl.



Hieracium Bernmuelleri Frey.

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A. 13. *Hieracium Guentheri* Beckii Fuhn.

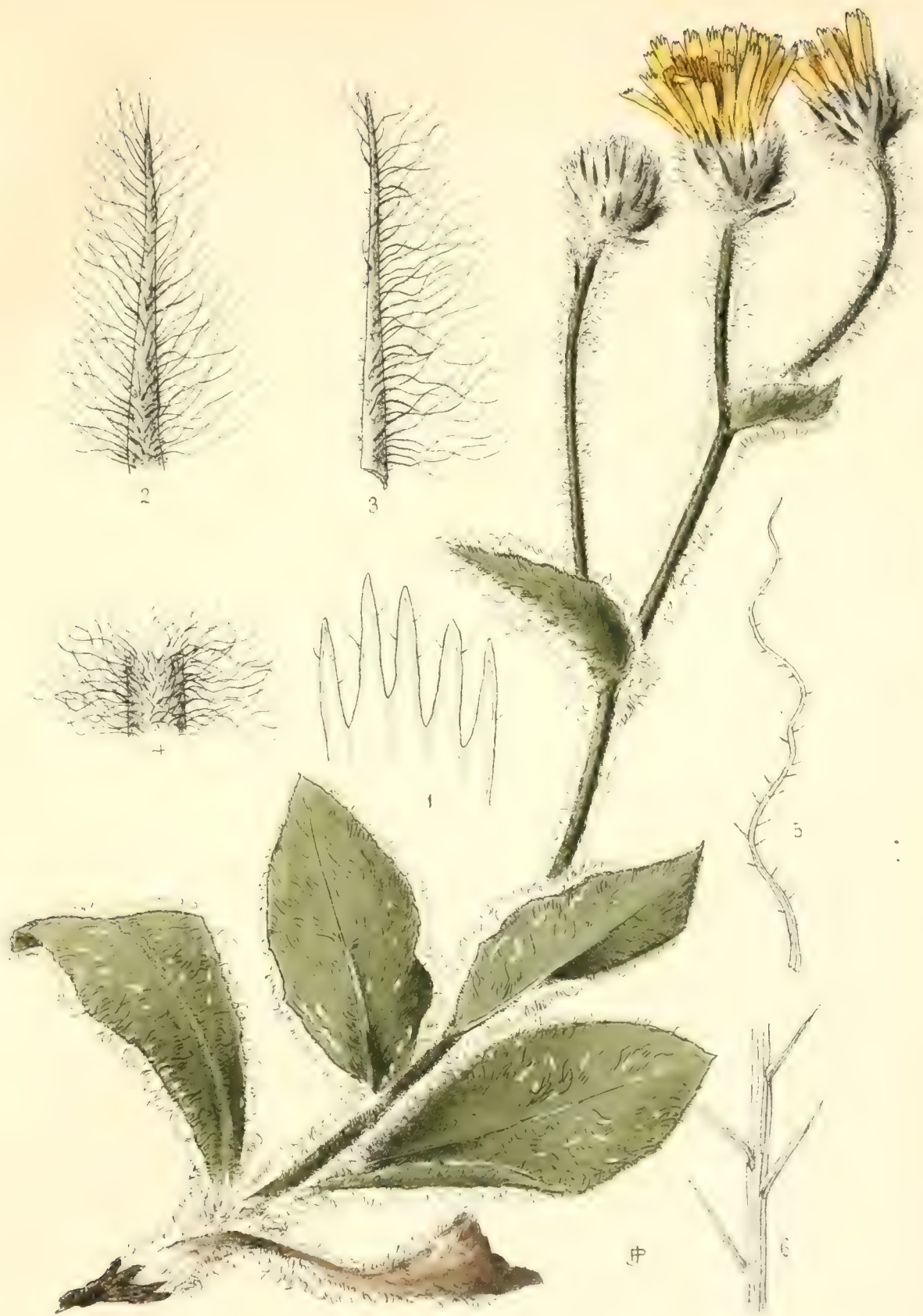
B. 45. *Hier. ptisiriace* de Loe. et Fuhn.

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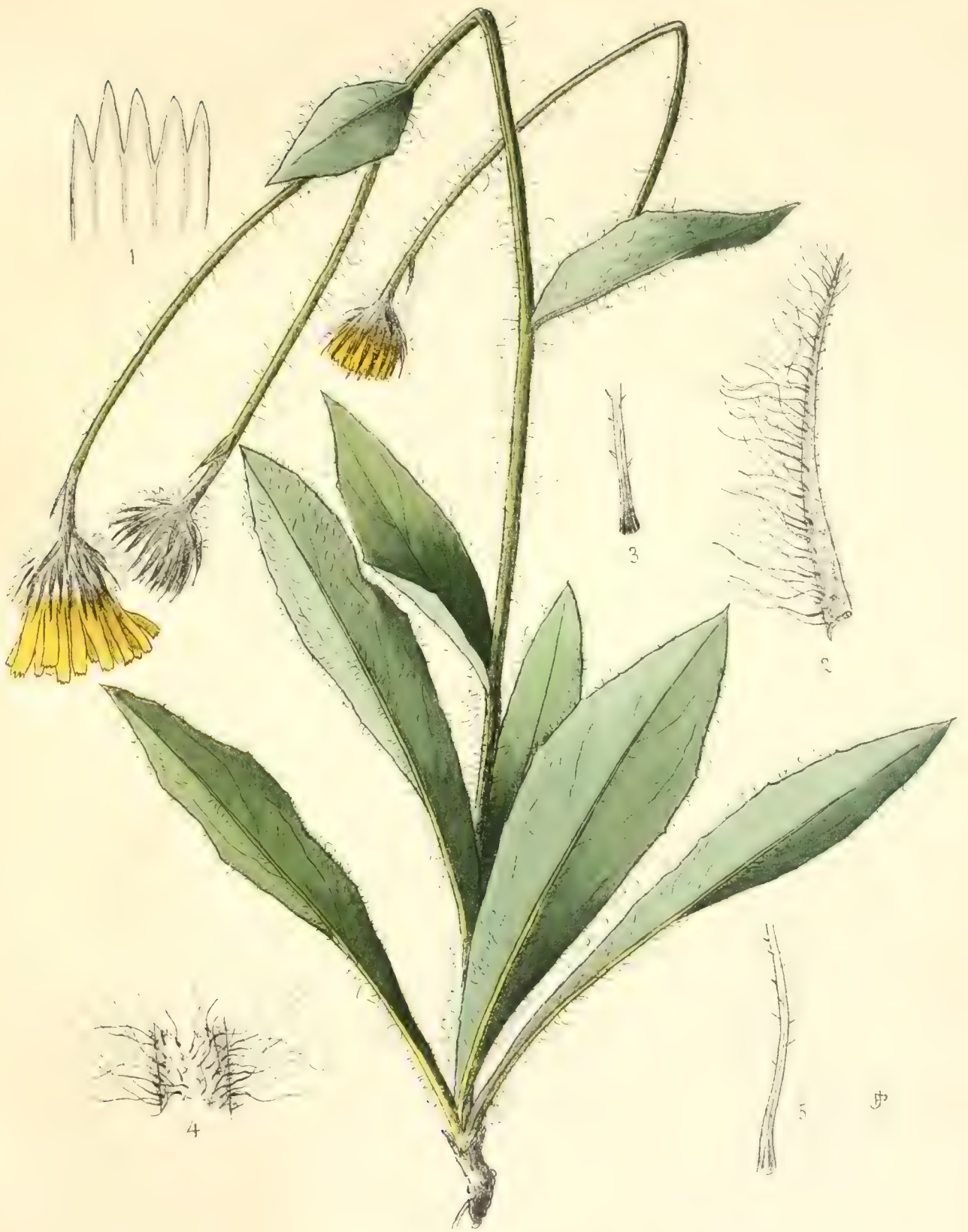


Hieracium Parnati. (L.)

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Hieracium ericphyllum (Schl. ssp. *albatum*) . ! ! !



Hieracium Lamphuli. A. T.



Hieracium cerusscans Fries.



A. 4. *Hieracium chloropsideum*. C. T.

B. 5. *Hier. terraeianum*. C. T.



Hieracium pellitum Fries ssp. *pseudotomentosum* V. L.



Hieracium pettitum Fries ssp. *Jordanii* A. N.



Hieracium petiolatum (L.) ssp. *pseudolanatum* (L.) !



Hieracium pettitum Fries ssp. *pettitum* Fries.

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Hieracium patchellum Gren.

. A. 1-3. ssp. *lanacellum* . A. . L. . B. 4, 5. ssp. *Herthieri* Zahn.

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Hieracium pulchellum (Gren. ssp. scusanum) A. J.

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Hieracium Pionii Gremli



Hieracium pictiforme Bohn.



Hieracium prasinops Teut. et Rahn.



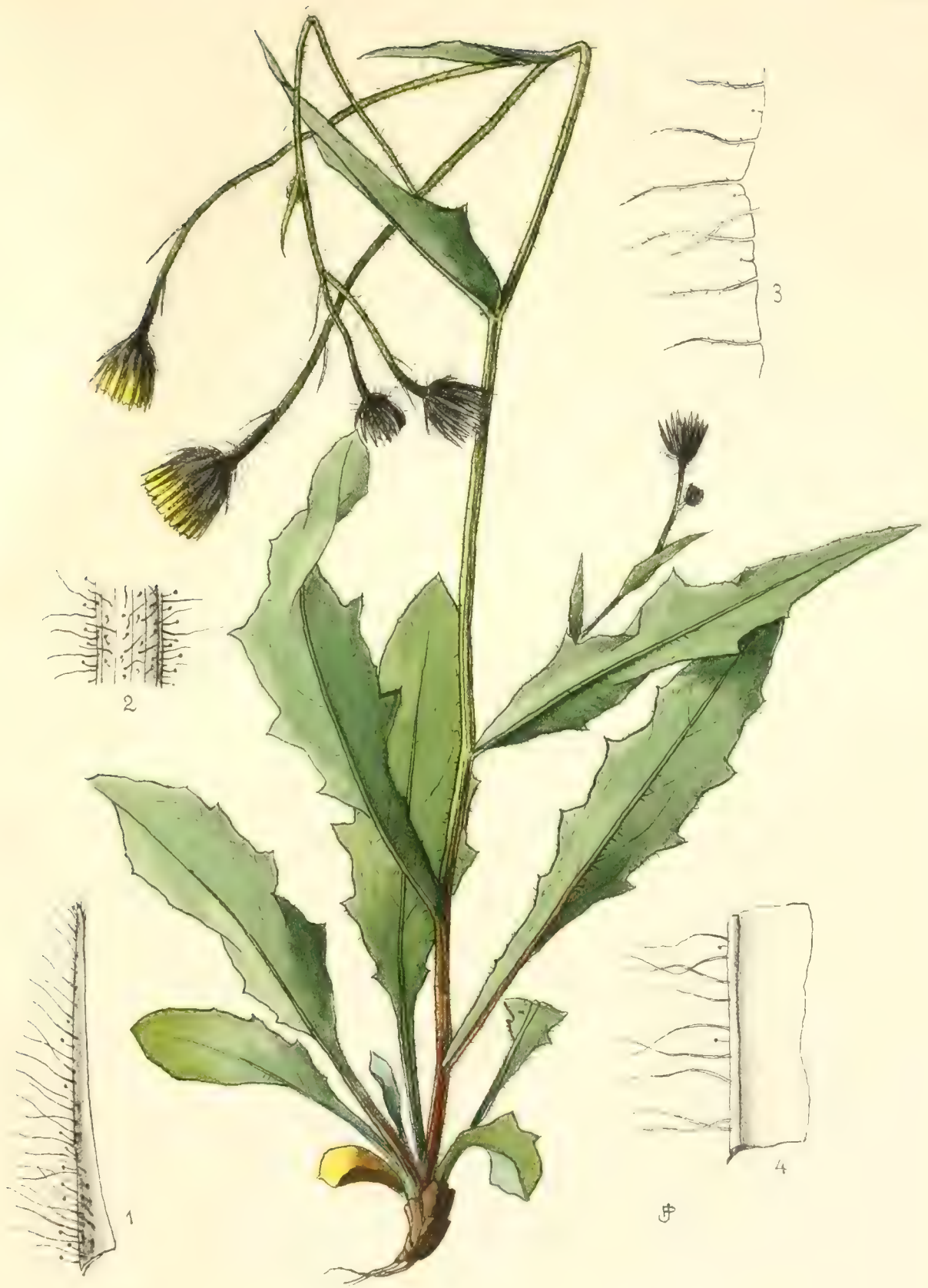
Hieracium Sandwicense Fahn.



Hieracium humile ssp. *pseudocotteti* Vahm.



Hieracium lacerum Reut



Hieracium verticillare Schults. Bip.



Hieracium Aspidianum Trautv.

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Hieracium Haeserianum Fahn.

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Hieracium cryptadenum C. F.

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A. 13. *Hieracium friturgense*. A. P.

B. 4-6. *Hier. cryptadenum*. A. - *T. sp. pseudocylleiceps* Trautv.

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Hieracium leucophaeum Gren.

. C. 1. 2. asp. fuscescens Vahl. . B. 3. 5. asp. Gremlii . C. 1.

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Hieracium leucephacum Gren ssp. *asterinum* . C. T.

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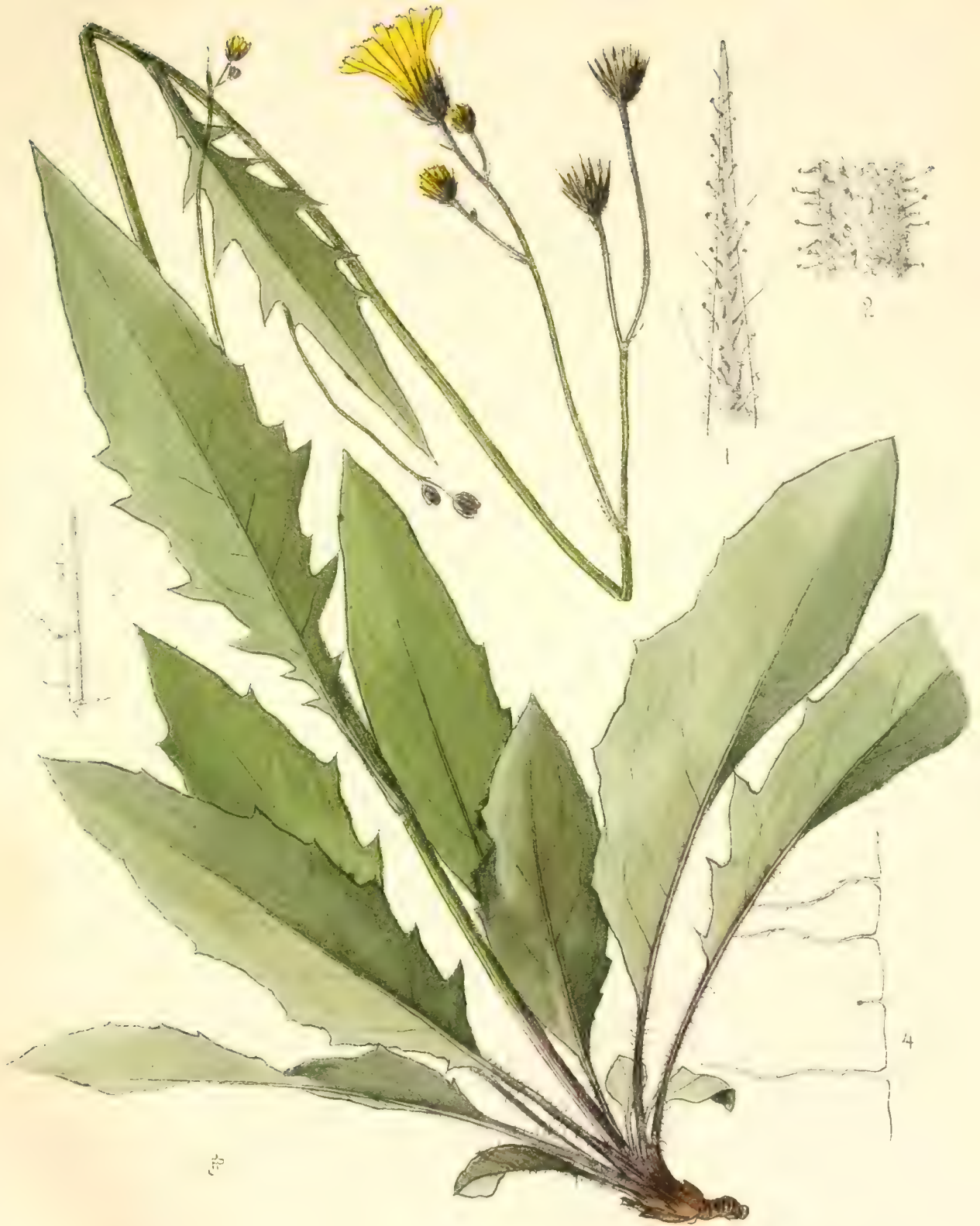
Hieracium Scutellianum Fahn.

1725-1727
1728-1730
1731-1733
1734-1736
1737-1739



Hieracium Cretoli Godet. t. 1, 2: ssp. *salvaticum* Rahn.
 B. 3, 5: ssp. *subhumile* Rahn.

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Hieracium Colleti Godet ssp. *crucephyllum* Vahn.

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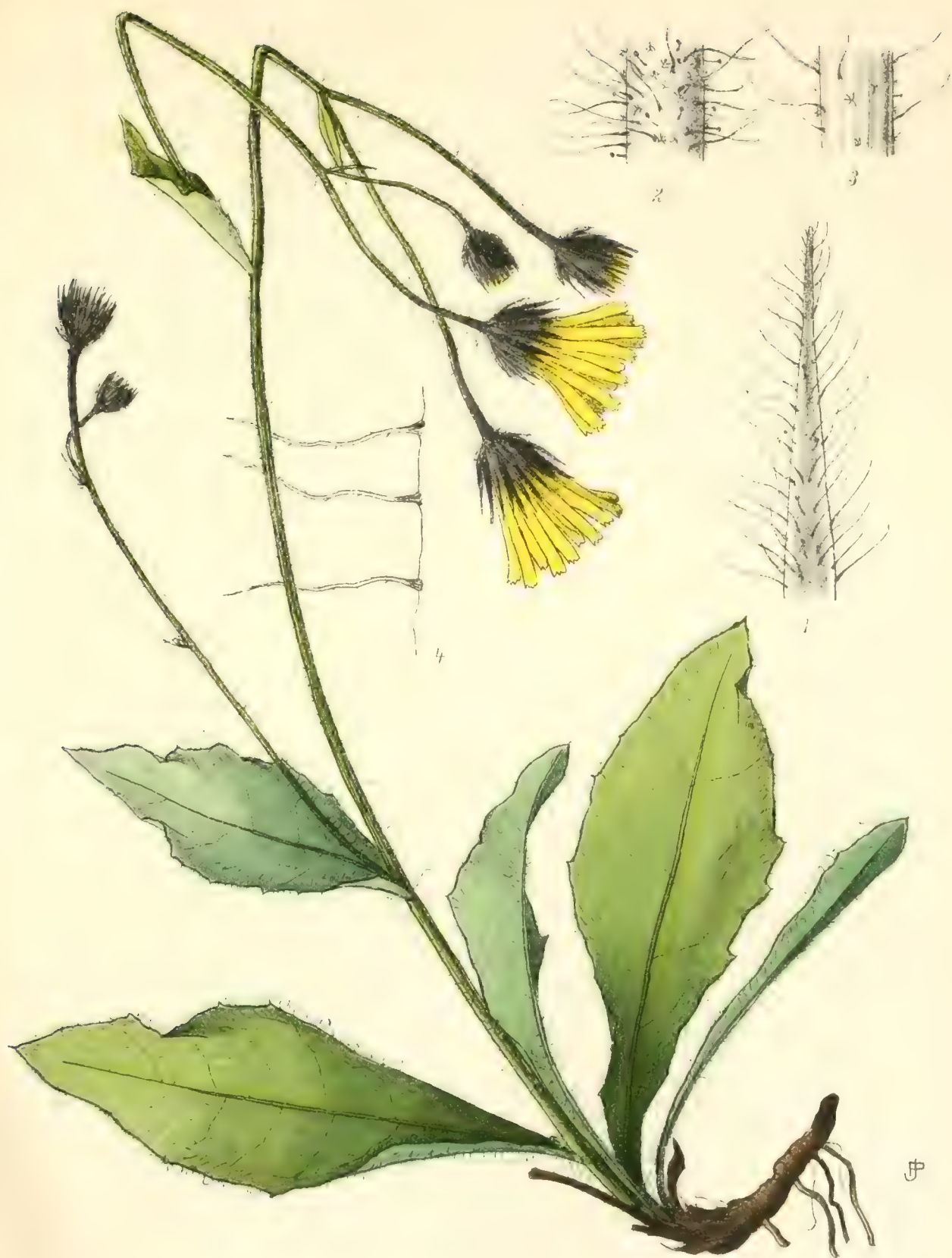
Hieracium Ballisianum. C. J.



Hieracium Ballisianum. A. T. sp. subcaesiiforme Fahn.



Hieracium satacrense Rapin.
 A. 14:ssp. *misaucinum* A. P. B. 5,6:ssp. *pseudogaudini* Trautv.



Hieracium salicarense. Rapin, ssp. *salicarense*. Rapin.



Hieracium : *Hermeri* *Tabu.* - A 13 ssp. *strictipetum* *Tabu.*
 B 45 ssp. *hermeriforme* *Tabu.*



Hieracium Gerardi Fuhn ssp. laracense. Met. F.

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Hieracium Kernerii Raben

. A 13.sp. *albatiscellanum* Dutoit . B 4,5.sp. *raccellianae* Raben.

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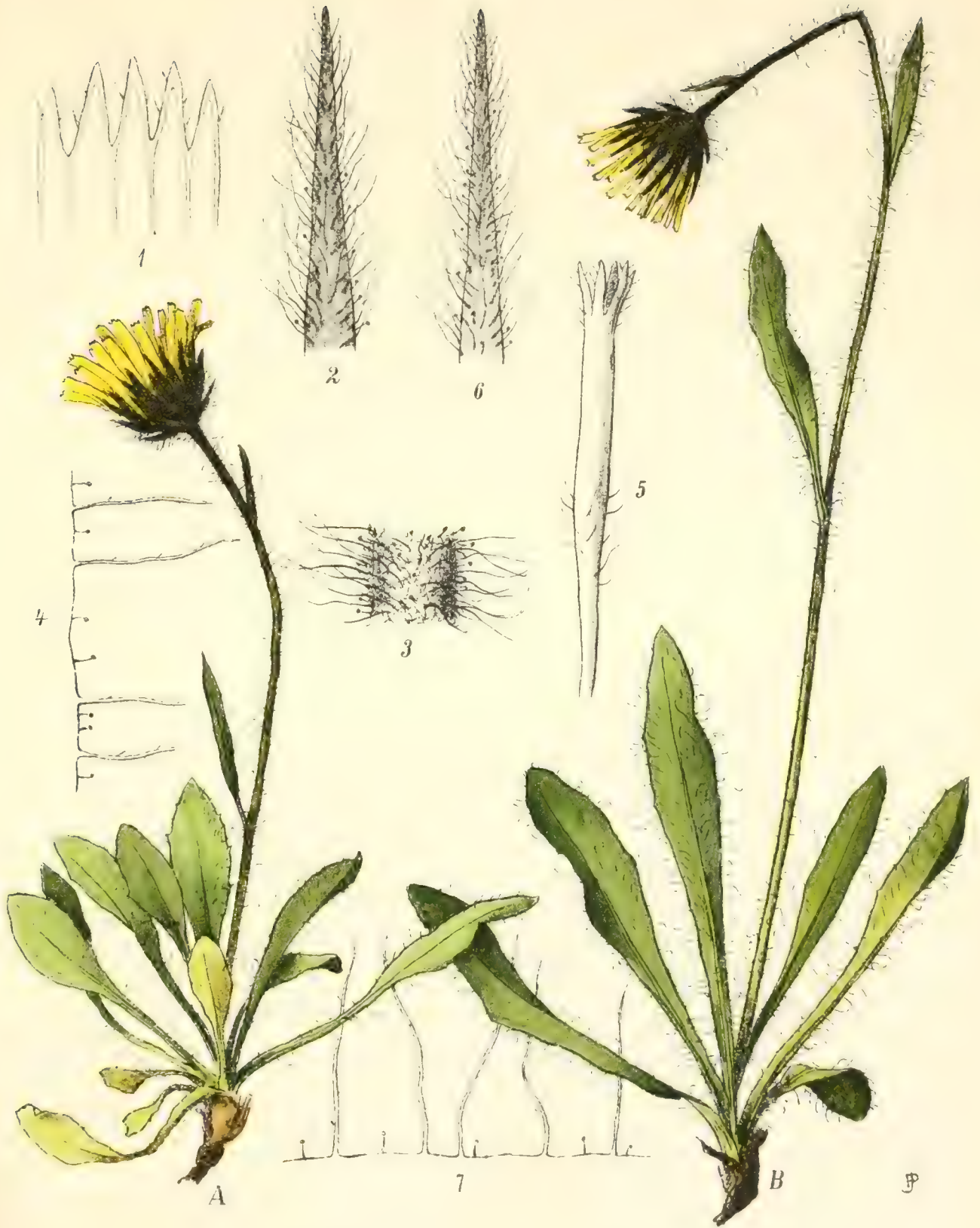
Hieracium Braunianum Chen. et F. rubr.



Hieracium lانسicum. L. f.



Hieracium alpinum L. var. *Halleri* Vill.

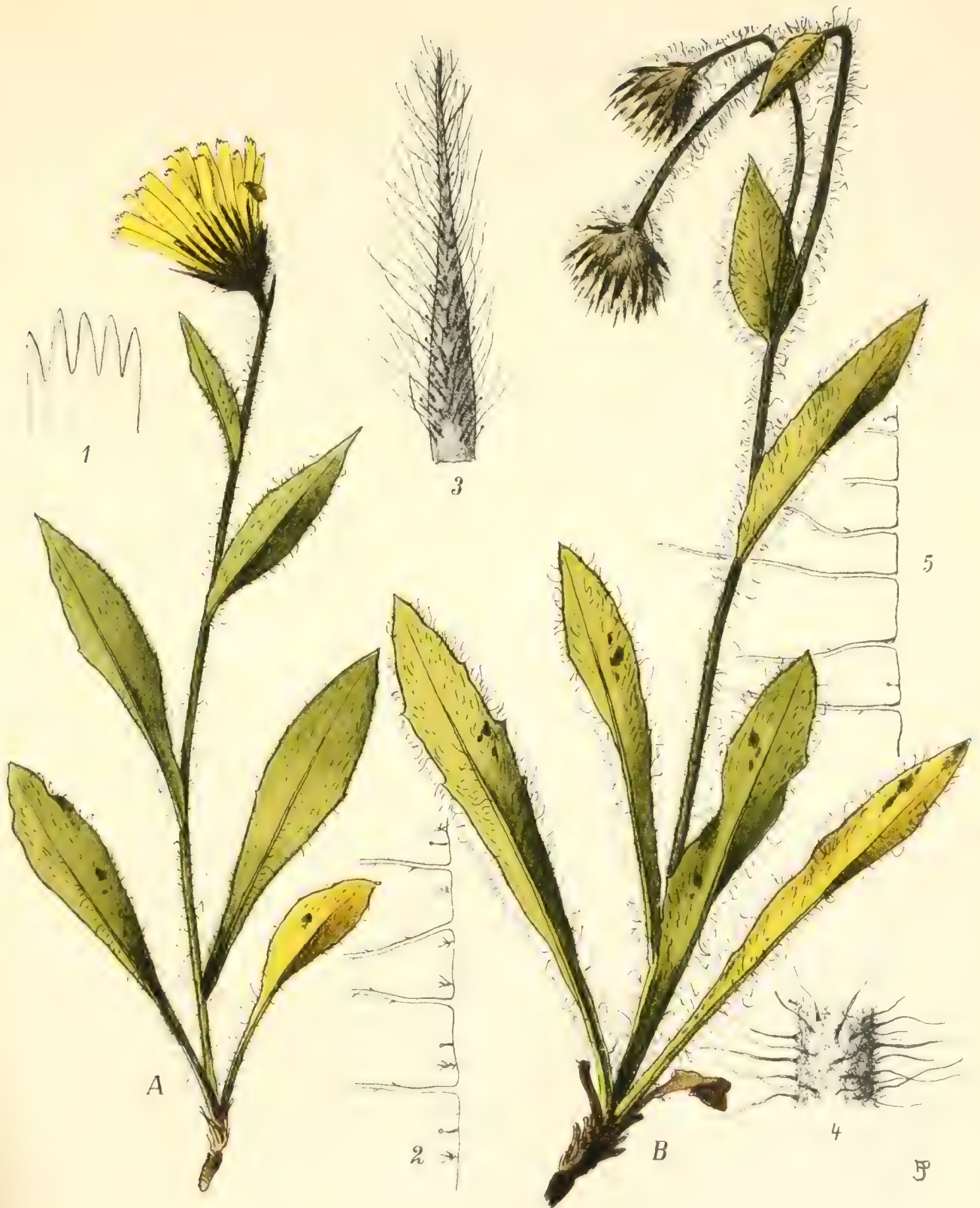


Hieracium alpinum L.

f. 4 ssp. *melanocephalum* Tausch. B. 5 7 ssp. *tubulosum* Tausch.



Hieracium alpinum L. sp. *calenduliferum* Bockh.



A 1, 2 *Hieracium alpinum* L. sp. *pseudofritzei* Bonx et Kuhn.
 B 3, 5 *Hier. Pastanum* N. P. sp. *korongyisense* Kuhn.

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Hieracium cochlearifolium Zahn.

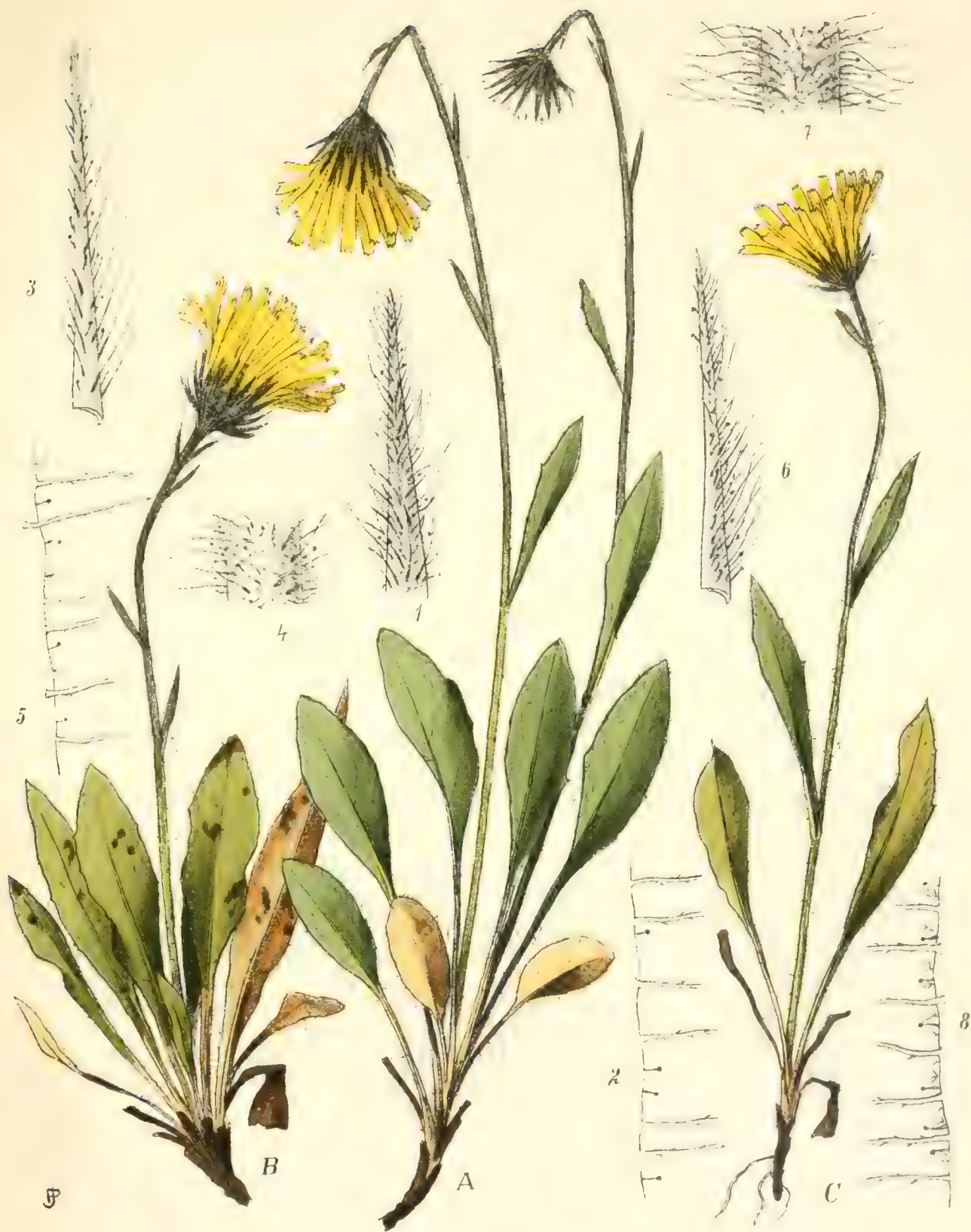
A 1.3 ssp. *cochlearifolium* Z., B 4 6 ssp. *pseudoglanduliferum* Z.

C 7.8 ssp. *pseudalpinum* A. P.

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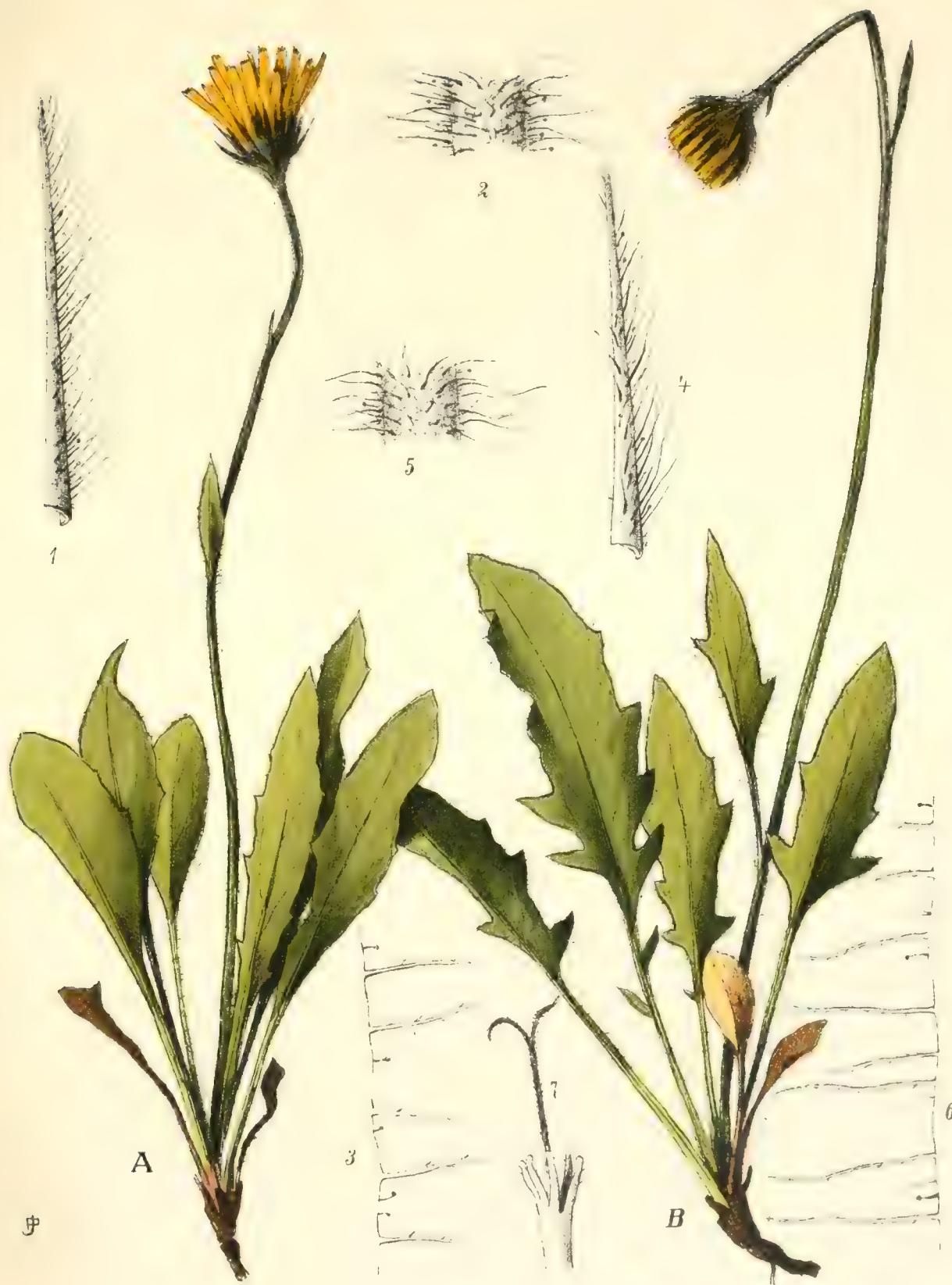


Hieracium prasinicolor Bosc et Vahen.



Hieracium nigrescens Willd. grex *Decipiens* Vahl
A. 1, 2 ssp. *cecbleare* Huter. *B. 3, 5* ssp. *richardense* V.
C. 6, 8 ssp. *subxanthocense* Vahl.

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Hieracium nigrescens Willd. quæ *Decipiens* Zahn

. A. 13. ssp. *pseudorhaeticum* Zahn, . B. 4. ssp. *leontodontoides*. A. T.

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Hieracium nigrescens Willd. grex *Decipiens* Vahl
 . 13 sp. *Decipiens* . Tsch., . B 4 6 sp. *crucigerum* . Fries.

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1000000



Hieracium nigrescens Willd. . A. 13 ssp. *pseudohalleri* B.
 B. 5 ssp. *pseudohalleri* f. *subochrolea* B. . C. 67 ssp. *subpinnatum* B.



Hieracium nigrescens Willd.

A. 1. 2. *ssp. sphaerocaulium* H. & A. B. 3. 5. *ssp. nigrescentiforme* A.



Hieracium unguiculatum Willd.

Hieracium unguiculatum Willd. *Hieracium unguiculatum* Willd.



Hieracium nigrescens Willd. ssp. *nivicontis* C. et A.

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Hieracium nigrescens Willd.

A 14 ssp. *nigrescens* Willd. B 56 ssp. *subneglectum* Fahn.



Hieracium nigrescens Willd. ssp. *rhaeticum*, Fries.



Hieracium nigrescens Willd.

A 1.3 sp. stricatum Zahn. B 4.5 sp. stellulatum Zahn.



Hieracium atratum Fries.

. A. 14ssp. *delichaetum* V.T. B. 5.6ssp. *zinkenense* Fernald.



C. 14 *Hieracium Schroeterianum* Fahn.
 B 5, 6 *Hier. squalidiforme* . M. et Z.



Hieracium atratum Fr. ssp. *adenophyllum* Raben.



Hieracium atratum Fr. var. *delichaetoides* Zahn.



Hieracium atratum Fr. ssp. *samnaunicum* Bohn.



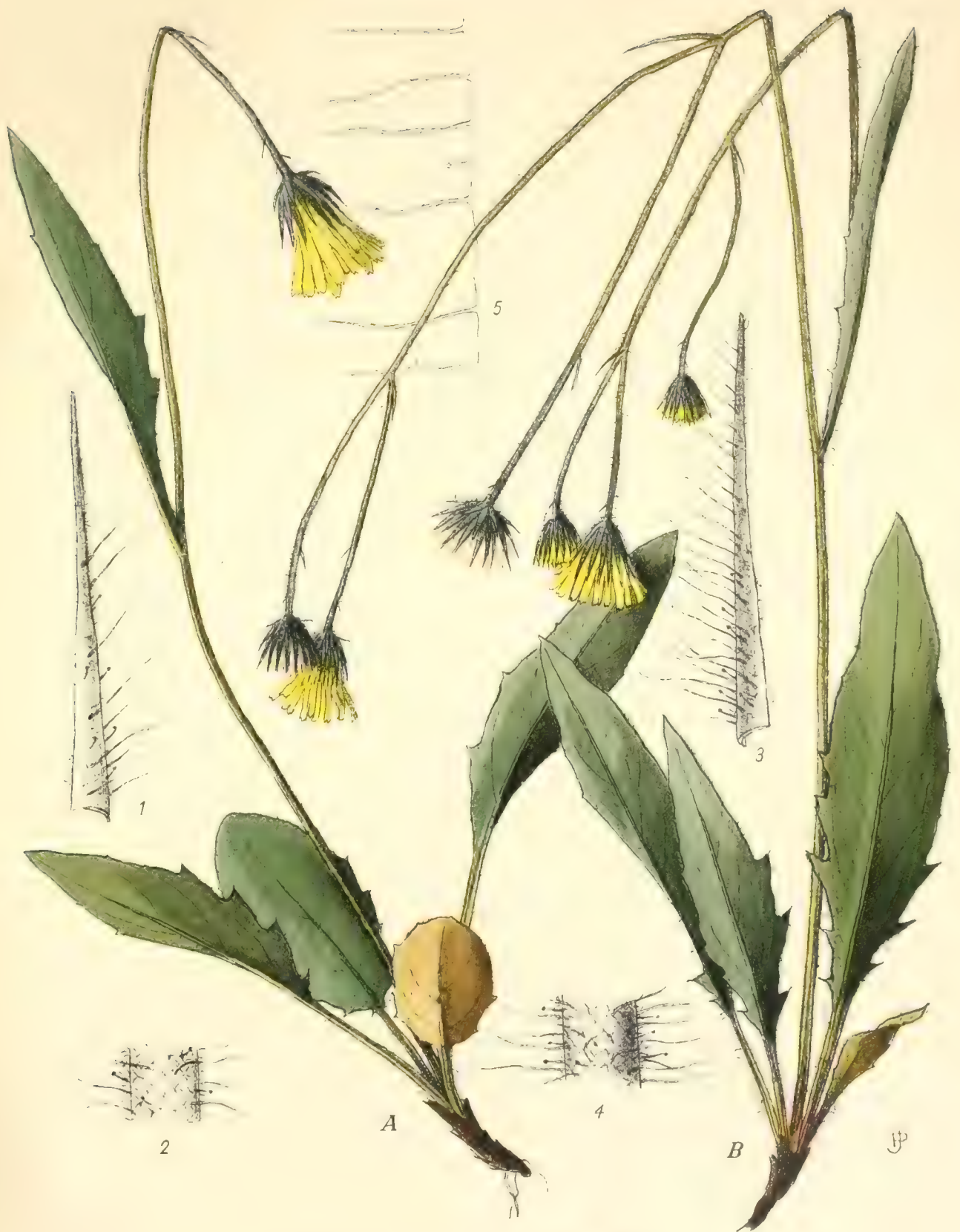
Hieracium pictosense Det. G.

. 13 sp. *pictosense* Det. G. B 6 sp. *bifidifolium* Zahn.



Hieracium *Irishani* Wet.

. A 3. sp. *Irishani* Wet., . B 4.5. sp. *retundiceps* 'rahn.



Hieracium rufense. Murr.

. A. 2 spp. pseudorectae. Murr., B. 3. 5 spp. megalactadum. Zahn.



Hieracium rautense, Harr. ssp. *rautense*, Harr.

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Hieracium rauzense, *Hier. ssp. archypterum*, W. & A.

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Hieracium raietense. Hier. sp. semimatatum Ficht.

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Hieracium rauricense Murr. *ssp. bigidellum* Eichen.



Hieracium arcticum. *Muri* ssp. *arcticum*. H.



Hieracium arcticum Mur. ssp. *macrocalathium* Fehn.



Hieracium thomasicum Focke



Hieracium Hükenenthalianum H. ssp. *praemarinicum* H. P. & A.



Hieracium Hakenenthalianum E. & S. *syn. Hakenenthalianum* E. & S.



Hieracium subciliatum Link. var. *brachyopogon* Link.

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Hieracium glandulosidentatum Hecht.

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Hieracium - Bellena - Guet ssp. uniparum Reichenb.

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P

Hieracium - Pectinatum - *Griseb. et Guss. in Engelm. Bot.*



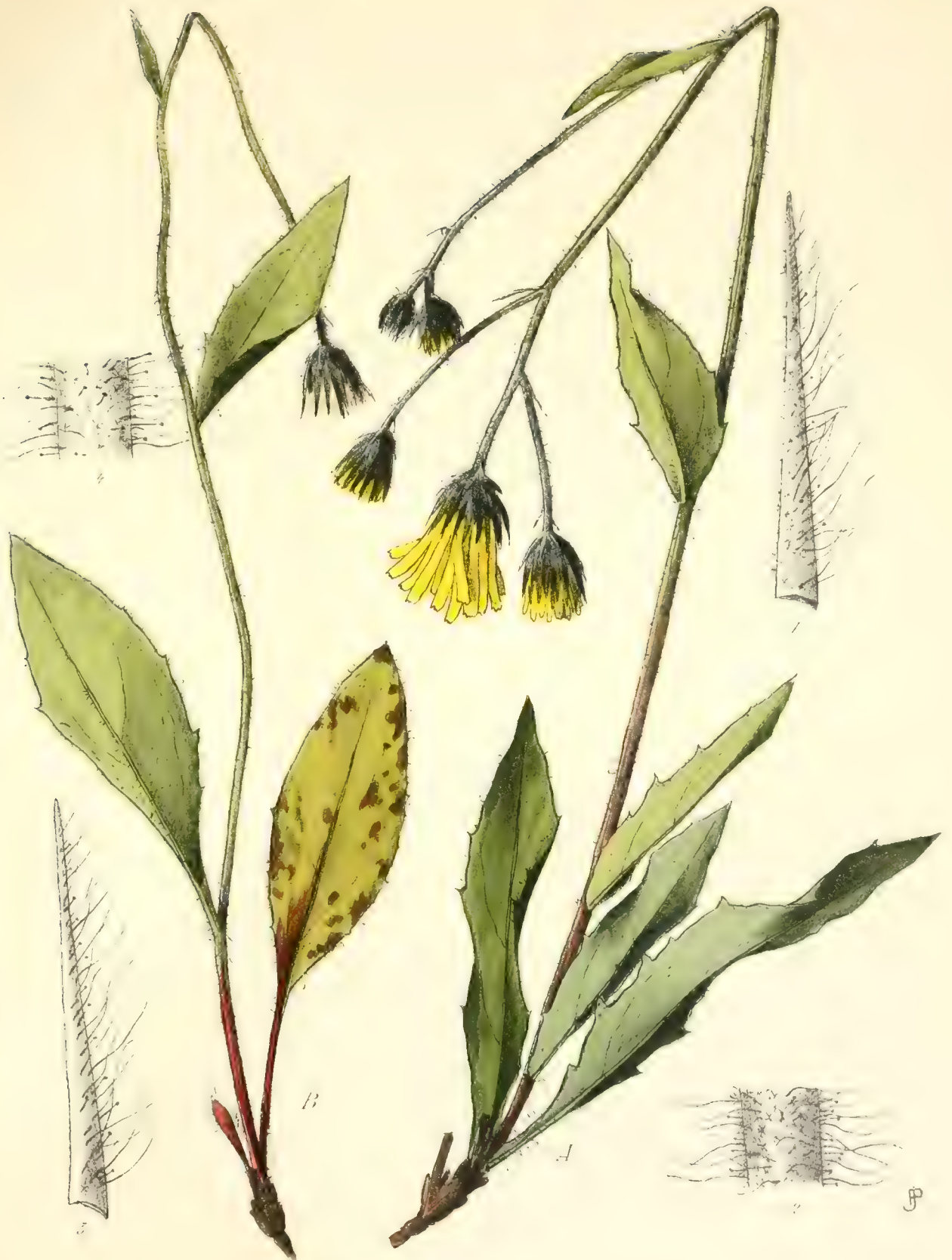
Hieracium - Pucconia Turci ssp. sinu. Haler.



Hieracium Vellmanni Reichenow sp. *Vellmanni* Reichenow



Hieracium Veltmanni Fehn. ssp. *quinsulicolum* Fehn.



Hieracium lephidermum Eaton.

A. 1, 2. *ssp. lephidermum* Eaton, B. 3, 4. *ssp. subopacum* Eaton



Hieracium amplexicaule L. ssp. *carolinense* Evers.



Hieracium amplexicaule L. ssp. *pseudoliqueticum* Gremli.



Hieracium Bicknellianum C. L. & P. Belli.



Hieracium pedemontanum. Parnat et Gromli.



Hieracium urticaceum L. - L. sp. - *Peribotryum* Rehb.

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A. 2 *Hieracium thibeticum* Rehb.
B. 4 *Hieracium adenodermum* Rehb.

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Hieracia

Critica Vel Minus Cognita

Florae Germanicae et Helveticae

Simul Terrarum Adiacentium

Ergo

Europae Mediae.

Auctoribus

D^{re} J. Murr, C. H. Zahn, J. Poell.

Pars III

Tabulae 175—308.

Lipsiae et Gerae

Sumptibus Friederici de Zezschwitz

1909 — 1912.



Hieracium pinnatifidum Willd. ssp. *pinnatifidum* Ledeb.



Hieracium pinnatifidum Lott. asp. *capitulosiflorum* Vahl.



Hieracium prenanthoides Willd. sp. pseudoleucopsis. M. & C.



Hieracium prenanthoides Pall. sp. *Fickii* Hecht.



Hieracium potentillae - L. f.



(B)

Hieracium vulgatum Vill. ex Grubenstyanum. V. L.



Hieracium valdepietosum Till. ssp. *valdepietosum* Till.



Hieracium vuldepilosum Vahl, ssp. *glabrescens* Lagerf.



Hieracium valdepietorum Vill. ssp. *etiopephyllum* A. !

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Hieracium mollitum . L. F.

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Hieracium cydoniifolium Vill. ssp. *parcepilosum* A. N.

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Hieracium cydoniifolium Vell. ssp. *collianum*. A. J.



Hieracium cydoniifolium Vell. ssp. *ochroleucumorphum* Eaton.



Hieracium cydoniifolium Vill. . C. 1, 2. *ssp. merckeyense* Fahn.
B. 3, 4. ssp. mespilifolium . C. 1.



Hieracium cydoniifolium Till. ssp. *subpanduratum* Rabenh.



Hieracium chloroglossum. L. f. sp. *fulvum*. L. f.



Hieracium chlorifolium, A. J. A. 12 sp. *pulchrum*, A. J. A.
B. 3.4 sp. *leucinum*, A. J. A.



Hieracium chloroglossum. L. f. ssp. *pulcherrimum*. H. 2.



Hieracium chloroglossum, C. L. ssp. *pseudopenninum* Eaton.



Hieracium chlorifolium. C. T. ssp. *chlorifolium*. C. T.



Hieracium Richenii - Merr.

♂



Hieracium negricanum, L. f. *Hieracium negricanum*, L. f.



Hieracium - Scyrracanthum . L. *F. sp. graecanicum* . Salis.



Hieracium subelongatum. !. *Pasp. alfenzenum* Evers.



Hieracium subelongatum. V. *Pasp. pseudosibiricum*. Linn.

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Hieracium subelongatum. V. Posp. subelongatum. Talm.

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Hieracium subelongatum. L. Pasp. *Hieracium*. L. F.

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Hieracium jurassiciforme. Harr. ssp. *wulfenbachense*. Harr.



Hieracium purassiciforme. Hier. sp. grandifolius & folia



Hieracium jurassiciforme. Mart. ssp. *jurassiciforme*. Mart.



Hieracium serotum, L.



Hieracium jaranum. *Fries* ssp. *subperfoliatum*. b. 1



Hieracium juranum - *Fries ssp. pseudojuranum* - G. J.



Hieracium juranum Fries ssp. *elegantissimum* Zahn.



Hieracium juranum Fr. ssp. *picnanthopsis* W. & A.



Hieracium purpureum L.
 ssp. *pseudohemiplicatum* Eaton Brandenow. Eaton.



Hieracium juranum Fr. ssp. *decreascentifolium* - Hier.



Hieracium purpureum L. var. *adnervatulum* C. Rich.



A, B, C. *Hieracium arbergense* Evers.
 D, E, F. *H. juranum* L. ssp. *pseudaltissimum* Hecht



Hieracium integrifolium . Lange

. 1. 2. sp. chlorocolor Fahn. . 3. sp. crepidifolium . 6. 7.



Hieracium integrifolium Lange
 ssp. *integrifolium* Lange & *geminum* Fernald.

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Hieracium integrifolium Lange ssp. *moravicum* Frey.

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Hieracium integrifolium Lange

. A. 1, 2 ssp. *album* Fr. . B. 3, 4 ssp. *eximium* . C. T.



Hieracium integrifolium Lange ssp. *subelegans* W. B.



Hieracium brumale. L. f.



Hieracium Beauverdianum . Besse et Pichu
ssp. *fariniceps* . M. E.



J

Hieracium erythropodium Hecht. ssp. *coloradense* A. N.



A. Hieracium erythropodum Nees.
B 1, 2: ssp. nigratum - W. & A.

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A. 1. *Hieracium macilentum* Fries ssp. *macilentiforme* W. B.
 B. 2, 3. *Hieracium gombense* Lager et Christener.

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Hieracium macilentum. Fries.



Hieracium iuraniforme Zahn ssp. *iuraniforme* Zahn.

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A. Hieracium iuraniforme Patn. ssp. *epimediiforme* B. et R.
B. 1.2 Hieracium epimedium Fr.

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Hieracium epimedium. Fr. ssp. *intybellifolium*. C. J.



Hieracium epimedium, Fr. *ssp. subepimedium*, H. & A.



A. 1.2 *Hieracium Wimmeri* Hecht.
 B. *H. Wimmeri* ssp. *Wimmerioides* Schreb.



Hieracium segetum - L. f. sp. *cardiiforme* - Raben



Hieracium rapunculoides. L. f. var. *trachelium*. L. f.



Hieracium rapunculoides, L. f. ssp. *macrorrhombum* Eaton.



Hieracium carpathicum, Besser



Hieracium cataphyllum Hook. & G.



Hieracium verbascifolium Vill. sp. *thapsifolium* L.



Hieracium verticillifolium Vill. ssp. *menthaefolium* . L. f.

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Hieracium argythrix, V. L.

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Hieracium floccosum (L.)



Hieracium Fritzei F. Sch.

• C. 13: ssp. *Fritzei* F. Sch. • B. 4: ssp. *pseudopersonatum* Vechtr. f. *stylotum*.



Hieracium riphacium Hecklt.



A, 1, 2 *Hieracium nigritum* Hecht.
B, 3, 4 *Hieracium pseudoximicum* G. Schneider.



Hieracium coccineum Knaf.
A. 1, 2 ssp. *asperulum* Freyn. B. 3, 4 ssp. *coccineum* Knaf.



Hieracium chlorocephalum Hecht.

H. ssp. stygium Hecht. B2,3 ssp. *chlorocephalum* Hecht.



Hieracium chlorocephalum Wimm. ssp. *adustum* Bonx et Vahn.



A. 1, 2 *Hieracium Engleri* Hecht. B. 3, 4 *Hier. Turkynae* Col.

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Hieracium verticillense. Horn.

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Hieracium stenzingense Fernald.



Hieracium viscosum. C. F.



Hieracium camesissimum Schlecht. ssp. *conringifolium* C. J.



Hieracium ramosissimum Schlecht. ssp. *ramosissimum* Schlecht.



Hieracium stenoplectrum. A. T. et Huter.



Hieracium picroides Vahl, ssp. *picroides* Vahl.



Hieracium pallidiflorum Tord. . C. 2. ssp. *Huteri* Haussmann
 . B. 3. ssp. *lanthesanum* . Burn. et Gremli f. *sericeum* Raben



Hieracium kabysianum Huter.



Hieracium macrocephalum Hult.



Hieracium fastuosum Calm.

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Hieracium pseudostenoplectrum C. Vahl

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Hieracium laciniatum Willd. ssp. *megalethyrium*. W. & A.



Hieracium laciniatum Willd. ssp. *amaurolepis*, M. & A.
l. subnigrum, M. & A.



Hieracium laciniatum Willd. ssp. *dollephyllodes* 'rubrum'



Hieracium thyris, *Thys. ssp. bulbosum*, *Hier.*



F

Hieracium elyricum. This sp. valdens. A. D.



Hieracium Lichthianum Wiest.



Hieracium Harxianum Tuck



Hieracium acrocarpum L. f. var. *bulbosum* & *latius*.

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Hieracium mutoides - Tausch
 - *H. sp. mutoides* - Tausch. - *H. sp. strachanum* - Tausch.

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Hieracium imbricatum, L. var. *imbricatum*, L.

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Hieracium multiceps. Tausch. var. *subconicum*. H. B.



Hieracium cicutoides Tausch sp. tridentatifolium Walp.



Hieracium crinale Fries sp. *Pellianum* Fries.



Hieracium lycopifrons Leg. et Hahn.



Hieracium constrictum C. J.



Hieracium umbellatum L. var. *laevifolium* Hahn.



Hieracium leucosoma . V. L.

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Hieracium virgicauda L. P.

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Hieracium speciosum Hornem.



Hieracium croceum. Fries ssp. *conicum*. G. T.



Hieracium subaundum L. ssp. *Peemertianum* Focke.



Hieracium sabaudum L. ssp. *sedunense* Gremli.



Hieracium sabaudum L. ssp. *vagum* Ford.

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Hieracium sabaudum L. ssp. *quercetorum* Tord.

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Hieracium vindobonense Wiesbaur.



Hieracium dellephyllum. V. L.



Hieracium bifrons. L. f.



Hieracium lycopifolium Troel.
 ssp. *trichoprenanthos* Tuckerm.



Hieracium Furrati - Muret.



Hieracium pseudocorymbosum Gremli.



Hieracium pseudocorymbosum Gremli.
ssp. *aquileiense* Liatin.



Hieracium Petryanum Fahn.



Hieracium virescens Jordan.



Hieracium dolesum. Bol. Gremli.



Hieracium leucopsis M. & K.



Hieracium racemosum W. & A. ssp. *peyeritense* Hot.



P

Hieracium Pospichalii Kuhn. ssp. *Pospichalii* Kuhn.

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Hieracium polyadenium . C.F.



Hieracium neoprenanthos C. T.



Hieracium pseudoboreale, A. T. sp. marianae, H. & A.



Hieracium latifolium Sprengel.



Hieracium brevifolium - Tausch



Hieracium Helwegii, Met. & A.



Hieracium melanothyrsus, Maly et. Kuhn.



Hieracium adenothyrsum Lag. et Pahn.



Hieracium Temmasinii Rehb. fil. ssp. setosissimum. A. P.



A. 1, 2: Hieracium stipposum. Rehb. fil.
ssp. nivalisquammum Leg. et Zahn.
B. 3. Hier. Grisebachii. C. Körner.



. A. 1. 2 *Hieracium sparsiflorum* . Friv. ssp. *silesiacum* . Krause
 . B. *Hieracium sibiricum* . Linn.



Hieracium sparsiflorum, G. Trin. & Pres.
ssp. *tubulatum* & *raton*.



A, 1, 2: *Hieracium sparsiflorum* (Fries) Fries.
 ssp. *Holschyanum* Heuff.

B, *Hier. stercoraceum* L. ex. et. cultm.



Hieracium gymnocarpum Benz et. Sachs.

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